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# Railway Age

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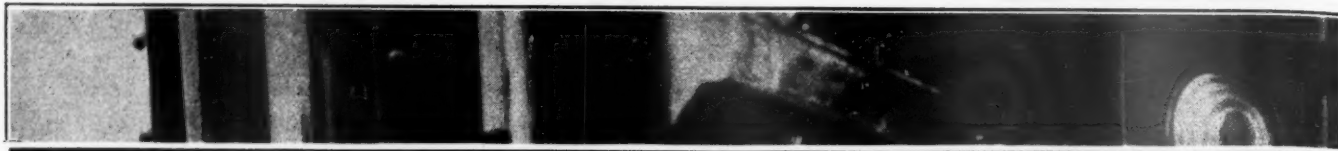
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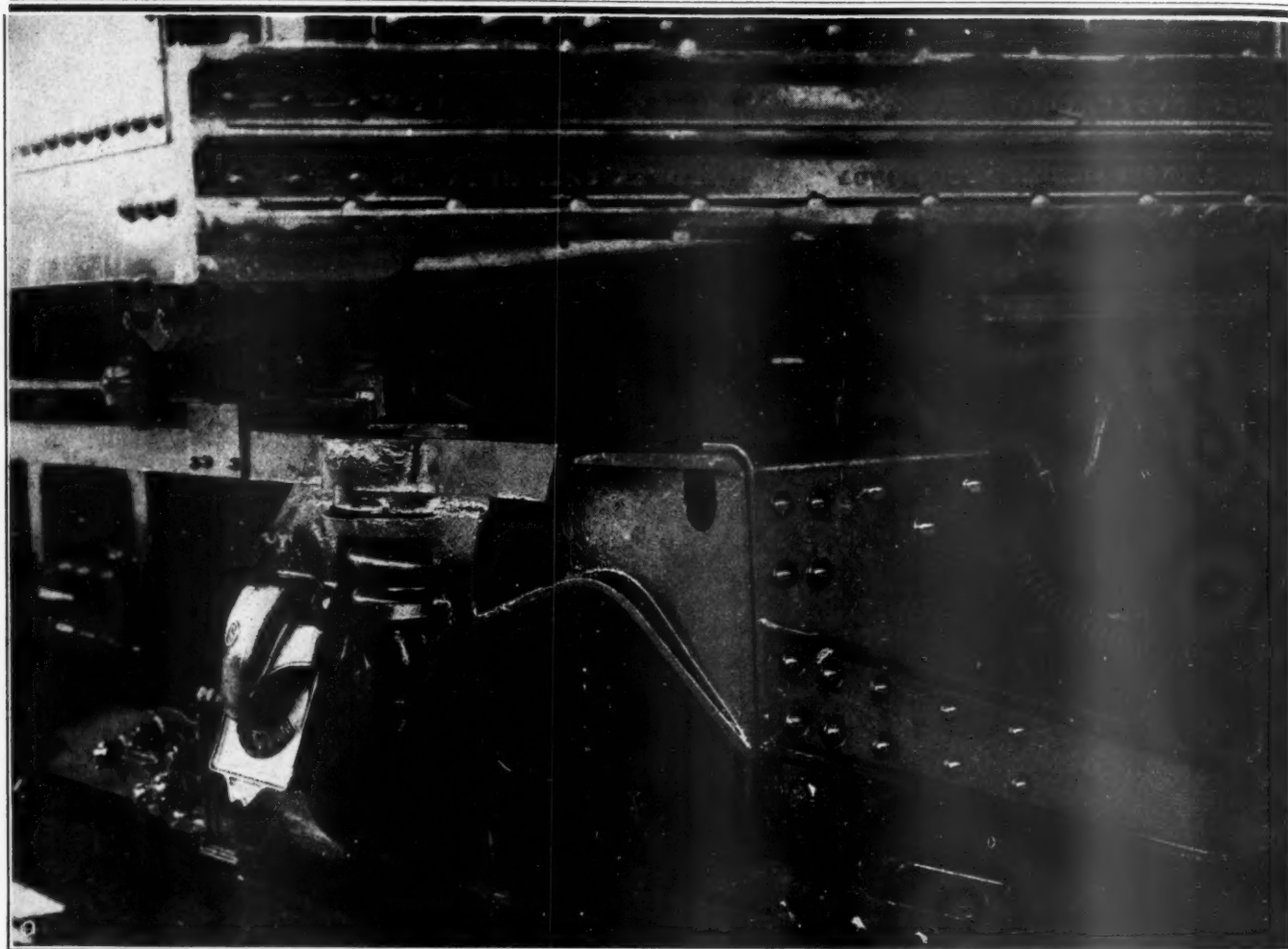
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## TRANSIT LINES AS WELL AS TRUNK LINES



**A**LWAYS alert to economize transportation, we believe that steam railroad men are interested in what's taking place among large rapid transit operators. The latest equipment in this field is, of course, found on the Independent City-Owned Rapid Transit Railroad System, New York City, which started operations Saturday, September 10th. As on many other rapid transit lines and railroads, cars of this new system are equipped with Standard Steel Axles and Wheels.

# The Railroad Problem and Railroad Employment

In the October issue of the *Railroad Trainman*, the official publication of the Brotherhood of Railroad Trainmen, there appears a long article by A. F. Whitney, president of that organization, and also, president of the Railway Labor Executives' Association, in which he bitterly assails the *Railway Age* because of certain statements made in an editorial entitled, "Who Will Save the Railroads?" which was published in the issue of this paper of July 16.

Mr. Whitney recalls that in its issue of February 6, 1932, the *Railway Age* said, in commenting upon the agreement made in behalf of the railways and their employees for a year's reduction of 10 per cent in the compensation of employees: "Never before during this depression have any men in the United States given so fine an example of leadership as was given by the leaders on both sides who brought about this voluntary reduction of railway wages."

Mr. Whitney also quotes from the editorial published in the *Railway Age* of July 16 in which this paper said in part: "What are they (railway labor leaders) doing now to help solve the railroad problem? All over the country employees of intelligence are taking the lead in organizing citizens' and taxpayers' associations for the purpose of securing equality of government treatment of railways and competing carriers. The railway labor organizations have adopted resolutions advocating such equality of treatment. Thus far, however, these resolutions have been a mere gesture. Nothing has been done to give any effect to them. For the most part railway labor leaders are continuing their antediluvian policy, which is completely discredited by present conditions in the railroad industry, of proceeding upon the assumption that the best way for them to help the members of their organizations is to attack capital, and especially the capital invested in the railroad industry."

The last sentence had reference to the movement of the labor leaders for a six-hour day at eight hours' pay, and to the policy of their weekly political organ, "Labor," in "giving practically no support to those who are trying to increase railway employment by getting traffic back on the rails, and, at the same time, giving

aid, comfort and support to every public man and every piece of proposed legislation that would help to complete the ruin of business, bankrupt the railroads and drive them into government ownership." Mr. Whitney charges that there was gross inconsistency in what the *Railway Age* said in its issues of February 6 and July 16 regarding the policy of the labor leaders, and in the action of this paper, while criticizing the present policy of the labor leaders, in urging them to take the lead in co-ordinating activities of all groups and classes trying to get traffic back upon the railroads.

### President Whitney's Charge of Inconsistency

The *Railway Age* does not admit that there was any inconsistency between its commendation of railway labor leaders and employees in February, and its criticism of the policy of the labor leaders in July. It still believes that when they agreed to a reduction of wages the labor leaders acted in a statesmanlike way, and that when they seek a six-hour day at eight hours' pay they are acting contrary to the interests, not only of the railways, but of railway employees.

There are involved two distinct questions, although both relate to means of restoring traffic to the railways, and thereby enabling them to increase employment. The first question is as to whether railway security owners, railway managements and railway employees should join in seeking federal and state legislation which, by withdrawing subsidies from carriers by highway and water and subjecting them to regulation comparable with that applied to the railways, will give the railways such opportunity as only changes in government policies can give them to compete on equal terms with other carriers.

The criticism of railway labor leaders voiced by the *Railway Age* in July was based largely upon the ground that they were not using the influence of their organizations as much as they should be in behalf of such changes in government policies. Mr. Whitney asserts that the leaders of railway labor and "their legislative representatives in every state are working diligently to obtain fair regulatory laws, and, through organized effort, are urging all business to patronize



the railways and free the highways for the original use to which they were dedicated." At the same time he minimizes the importance of all such work by saying, "It is reasonably certain that we need not expect a large increase in the use of buses and trucks on our public highways."

We wish that we could agree with this statement of Mr. Whitney, but the fact is that both water and truck competition are constantly increasing, and we believe it is the opinion of most railway officers and employees that its effectiveness will continue to increase unless other carriers are subjected to the same kind of government treatment as the railways and railway costs of operation and freight rates are substantially reduced. The fact that Mr. Whitney minimizes the importance of this competition, while railway employees throughout the country are organizing to fight it, indicates that thousands of employees do not agree with him regarding its seriousness.

### Employees' Productivity and Wages

Mr. Whitney is especially severe in his comments upon the *Railway Age's* criticism of labor leaders for seeking a six-hour day at eight hours' pay under present conditions. "It is not labor costs that are holding the railroads down," he says. "Modern methods have increased the productivity of train, engine and yard employees approximately 50 per cent since 1923." The six-hour day is being sought for all employees. How much has their productivity actually increased since 1923? The number of ton-miles per employee increased from 245,596 in 1923 to 294,950 in 1929, or 20 per cent. But the railways transport passengers as well as freight. Assuming, as is usually done, that each passenger mile is equivalent to three ton-miles, the number of traffic units produced per employee averaged 306,892 in 1923 and 351,077 in 1929, an increase of 14.4 per cent. This increase in average productivity per employee would have been impossible without the large increase in the investment in the railway plant that occurred. The investment per employee in 1923 was \$11,120, and in 1929 it was \$14,982, an increase of 35 per cent. In 1923 the average wage per hour of employees was 61 cents and in 1929 it was 66 cents, an increase of 9 per cent, while in 1930 it was 67.8 cents, an increase of 11 per cent over 1923, and in 1931 it was 68.9 cents, an increase of 13 per cent. In 1930 and 1931, while the average wage per hour of employees was still increasing, their productivity was declining because of the decline of traffic, and it has declined still further in 1932.

Mr. Whitney criticizes the *Railway Age* as a prophet because this paper anticipated that the reduction of wages made last February would result in an increase in railway employment, and it has not done so. He makes no mention, however, of the fact that during the wage negotiations in January it was anticipated that general business and railway traffic would soon cease to decline, whereas they continued to decline, freight business in January being 39 per cent less than

in January, 1929, while in June it had become 54 per cent less than in June, 1929. He seems to wish his readers to believe that if the wages and purchasing power of railway employees had not been reduced general business and traffic would not have declined. It seems hardly necessary to point out that traffic would have declined, anyway, because the volume of freight shipped by rail depends upon conditions in other industries, and not merely upon the purchasing power of railway employees, who, together with their families, are normally only about 5 per cent of the country's total population.

### Views of a Furloughed Fireman

Now, how about the working conditions and wages of railway employees? Is anybody the enemy of employees who opposes changes in working conditions and wages which would increase, and advocate changes which would reduce, the cost of railway operation? There are employees who do not think so. We quote in full below a letter written recently by a furloughed fireman to the president of his railroad. We know the letter is authentic, although we withhold the names of the author and of his railroad:

I am a fireman for the ..... railway of nearly fifteen years' service. I am a strong advocate for a substantial reduction in the wages of railroad employees. *I believe that such a move would be an increase in mine and in the incomes of many other railroad employees as well as many workers in other industries that are seemingly not connected with the railroads.* I believe that there is nothing that will do more to promote the general welfare of this country and stimulate business conditions and start the wheels of industry in motion than a substantial reduction in railroad employees' pay and lowered transportation costs.

I believe that the reduced purchasing power of the reduced number of railroad employees that are still in service, would be more than outweighed by a more equal distribution of wealth and a released buying power of the carriers that is sure to come about and cannot help but stimulate business.

While some of the carriers have asked their employees to accept a voluntary temporary wage reduction of ten per cent until business conditions again warrant the wages now existing, before prosperity can return they must have a reduction of at least thirty to forty per cent, and the shippers must have the benefit of lowered transportation costs.

Since the enactment of the Adamson law and several later increases in railroad workers' wages, wages have in all cases been nearly doubled, some have been more than doubled, others about trebled.

Wages of railroad employees in train service range from that of the switch engine fireman, who is the smallest paid, to that of the passenger engineer, who is about the largest, from approximately \$180.00 per month to approximately \$355.00 per month.

A reduction of thirty to forty per cent from these earnings would still leave these employees among the highest paid of skilled laborers, and should not incur any hardship on any one.

*These high wages have not kept men at work. Instead they have reduced the number of the employed. A six-hour day at existing rates for eight hours cannot mean any thing more than another increase in pay of thirty-three-and-one-third per cent, which would have a tendency to force the carriers to make further reductions in the number of employees that are still at work.*

We should, and many of us do, understand that if our jobs are to remain secure, the cost of our services must be reduced to where they can be sold at a profit by our employers. If we are to prosper from the fruit of our labor, our employers must also. To do this transportation costs



must be lowered to where shippers will not be denied the use of our railroads, as well as to where other and inferior means of transportation will not be permitted to encroach upon this business, which is the business of the railroad employees as well as the carriers.

When we take into consideration the financial condition of the carriers, the industries that have been forced to quit business and their employees who have been put out of employment, the western farmer who is almost denied the use of our railroads because the market value of his products is very often less than their transportation costs to market, and that railroad employees, in addition to these exorbitant wages, have the benefit of free transportation for themselves and their dependents and other advantages not enjoyed by employees in other industries, and that living costs are lower than before we were given these increases, we must admit that to oppose such a move at a time like the present is not only selfish and unfair to our employers, but is un-American as well.

As I have said that I have worked for this company for nearly fifteen years. I lose very much time. Men whose services have been slightly shorter than mine scarcely get any work under present conditions. As much as I can learn through inquiries I find that similar conditions are prevalent on other railroads. *These furloughed employees are looking forward to the time that they may have steady employment which they formerly had.*

To obtain this a general business revival must materialize. Men in other industries must be reemployed. Transportation costs must be lowered and wages must be adjusted in conformity with the changes that have taken place.

### Facing the Real Conditions

No better presentation of the situation with which the railways and their employees are confronted has been made by anybody than by the writer of that simple, direct letter. If railroad employment is to be restored it must be brought about by a restoration of railroad traffic. If railroad traffic is to be restored the railroads must be given a fair opportunity to meet outside competition and to charge rates that the traffic will bear. Unless commodity prices are going to increase more than there now seems reason to expect, railway costs of operation must be reduced to enable the railways to charge rates that all the traffic will bear. If railroad costs of operation are to be reduced substantially this must be accomplished largely through changes in working conditions and wages, because under normal conditions the payroll is almost two-thirds of total operating expenses. Because of the reduction of commodity prices and other reasons the incomes of most classes of people, including workingmen still employed, have been greatly reduced, at least temporarily, and railway employees cannot reasonably ask or hope to have their incomes maintained on a substantially higher basis relatively than the incomes of all those—including the entire people—who indirectly pay for the service railway employees render.

Mr. Whitney cannot change these facts, cold and hard as they are, by abusing the *Railway Age*. The economic conditions which exist in the industry, commerce, agriculture and transportation of this country do actually exist, and the railways and their employees must adjust themselves to the changes that have occurred, and to the changes that will occur in future, if the railroads are going to be able to continue to exist and to render the service, give the increased employment and make the increased purchases essential to

enabling them to contribute their share toward economic recovery and the revival of prosperity.

## A Natural Turn in Train-Control Affairs

The decision of the Interstate Commerce Commission granting the petition of the Union Pacific to operate locomotives equipped with continuous cab signals in lieu of automatic train control on 225 miles of double-track line between North Platte, Neb., and Cheyenne, Wyo., marks an important milepost in the history of railroad safety devices.

In 1922, when the commission issued its first order, requiring 49 railroads to make extensive installations of automatic train control, such systems were considered as the ultimate in railroad safety devices, the fundamental feature being the automatic application of the brakes in case an engineman failed to heed a wayside signal indicating danger. However, the continuous cab signal, which was brought out as an accessory to the continuous train-control system, has gradually proved, in the opinion of many experts, to be of more practical service than the automatic brake application features of the system, especially in the handling of long freight trains on grades where the automatic application of brakes is frequently undesirable.

Although recognition was given to the factors just mentioned, representatives of the Union Pacific testified at the hearing that the primary reason for requesting relief from the original orders was the necessity for more economical operation. The expenditures for maintenance and operation of the train control averaged over \$100,000 annually for the five years ending with 1931, and it is estimated that \$30,000 to \$40,000 will be saved annually by substituting the cab signaling system. The change will also result in further savings and greater flexibility of operation, whenever it is desirable to change the assignment of power.

Thus, within the period since 1922, it has been proved that automatic train-control devices function satisfactorily, but that under certain circumstances, such as are encountered in the territory on the Union Pacific, the expenses for maintenance and operation of the devices are so high as to constitute an excessive charge for the additional safety afforded, and that a large part of this added protection can be secured by the use of cab signals at a decided reduction in first-cost and maintenance and operating expense. Cab signaling, therefore, takes its place as one of the recognized systems of modern safety devices and, in view of the protection afforded at minimum expense, it is anticipated that other roads will desire to use cab signals, not only in lieu of existing train control, but also for extensive territories where wayside signaling now in service does not provide complete protection on account of fogs, frequent storms, etc.

# Performance of New York

By F. H. Craton and J. F. Walker

Transportation Department,  
General Electric Company



Looking South Along the West Side Tracks  
Toward the Hudson River Highway Bridge

THE New York Central's main line freight tracks enter Manhattan Island at Spuyten Duyvil, which is at the northwestern tip of the island at the junction of the Hudson and Harlem rivers, the line running from Spuyten Duyvil south along the Hudson for 12.4 miles as far as St. John's Park. Part of these tracks have been electrified in connection with the so-called West Side improvement which has been under construction for some time.

Six hundred and sixty-volt, third-rail has been installed from Spuyten Duyvil to 72nd Street, 7.8 miles, as an extension of the present third-rail electric zone. To have installed external power facilities south of this

point with the present track arrangement would have been highly impractical because of trackage on city streets, and many sidings leading into warehouses and industrial buildings; but extension of the third rail on main line tracks south to 30th Street is contemplated when the new right-of-way which has been planned is available. The traffic in this district is moved by "three-power" locomotives, the oil-electric-battery, third-rail type, and this type in the future will handle all traffic off the main line tracks.

The freight service from Harmon, N. Y., the northern terminus of the electric zone, to 72nd Street, 30.1 miles, is handled by Class R-2, 600-volt, electric road locomotives, 42 of which were purchased during 1930-31. The R-2 locomotives are of the six-motor C + C type, weighing 133 tons and equipped with motors rating 1995 hp. continuously and 2490 hp. hourly at 600 volts. These locomotives were described in the February 14, 1931, issue of the *Railway Age*.

To secure maximum flexibility in operation, gearing permitting a maximum operating speed of 60 m.p.h. is provided; this allows the locomotives not only to haul freight and milk trains on the electric division, but also a number of passenger trains between Harmon and Grand Central Terminal.

The profile over which freight is handled between Harmon and 72nd Street is almost level, running as it does alongside the Hudson river. The ruling grade in each direction is .65 per cent and about .7 miles long. Moreover, the distance from Harmon to 72nd Street is only 30.1 miles. The electric locomotive is ideally suited to take advantage of these conditions because of its ability to operate at overloads for short periods. The result is that one R-2 locomotive can successfully handle trains up to 3500 tons trailing, which constitute the majority of the freight trains operated between Harmon and 72nd Street, and the few trains which are heavier are operated by double heading. Some freight



Looking North Toward  
the Bridge — The  
130 St. Freight Station and an Oil-Electric  
Switcher are  
Shown in the Fore-  
ground



# New York Central Electric Freight Locomotives

Test results warrant rerating of the electric units  
and show them to be suitable for both  
freight and passenger service

trains are also handled by these locomotives between 72nd Street and White Plains north station, on the Harlem side of the electric division, a distance of 31.3 miles.

## Test Trains

Prior to the acceptance of these locomotives by the New York Central, very complete data were taken on a road test hauling a 2273-ton, 82-car train. This was supplemented by another road test with a 3364-ton, 127-car train. The results obtained were gratifying in demonstrating the high limit of capacity of the locomotive in this class of service.

Table I shows the schedule speeds made between Harmon and 79th St., 29.5 miles, during the test with the

Table I

From	To	No. of intermediate stops	Schedule speed-m.p.h.
Harmon	79th St.	4	24.2
79th St.	Harmon	6	24.9
Harmon	79th St.	4	25.7
79th St.	Harmon	4	26.7

82-car train. These schedule speeds are based on time in motion only, since the stop time was variable.

With this train, the locomotive attained a free running speed of about 37 m.p.h. on level track with 575 volts average at the third rail. With the locomotive starting at the foot of a .65 per cent grade, the train was accelerated up the grade from standstill to final full field running position at the rate of .078 m.p.h.p.s. with an average tractive force equivalent to 18.2 per cent of the weight on drivers. The average braking rate for this train on level track was .60 m.p.h.p.s.

A second test was made with a 127-car, 3364-ton train, consisting of 94 per cent empties at 23.1 tons average and 6 per cent loads at an average of 76.6 tons each. The estimated length of the train was 5450 ft. Two round trips were made between Harmon and

96th St., each one way trip averaging approximately 27.5 miles. Excluding stop time, which was quite variable owing to interference by regular scheduled traffic, the average speeds for four trips were as shown in Table II.

The low schedule speed of 15.8 m.p.h. was due to difficulty with sticking brakes.

The free running speed of this train on level track and with 575 volts at the third rail was 30.6 m.p.h. Free running speeds of 32 m.p.h. were observed on level

Table II

From	To	No. of intermediate stops	Schedule speed-m.p.h.
Harmon	96th St.	3	15.8
96th St.	Harmon	3	20.4
Harmon	96th St.	4	21.0
96th St.	Harmon	3	19.3

track with correspondingly higher third rail voltage. Acceleration up a .65 per cent grade from standstill to full field series-parallel running position was .062 m.p.h.p.s. with an average tractive force equivalent to

Table III

Speed m.p.h.	Tractive force as per cent of wt. on drivers	Remarks
0	32.0	Tractive force at which wheels slipped, notching up controller in several attempts to start with brakes sticking. No sand.
10	26.3	Tractive force at which wheels slipped. No sand.
2	34.3	Short peak in acceleration without slipping. With sand.
12 to 18	24.4	Average of 2½ minutes with speed rising and no slipping. With sand.
15.9	28.0	Short peak in 12 to 18 m.p.h. period above. With sand.

25.3 per cent of the weight on drivers. The average braking rate on level track was .37 m.p.h.p.s.

## Adhesion and Train Friction

Some notably high values of adhesion, derived from the record of the recording ammeter during these runs, are shown in Table III.

One of the Class R-2 Electric Freight Locomotives Leaving Croton, N. Y., for the Westchester Yards, New York, N. Y.





Weather during these runs was clear and dry with no wind. The high values of adhesion obtained are no doubt due to the design of running gear, particularly the three axle trucks.

Because of the complete and accurate data taken on these tests, it was possible to calculate some train friction

#### Test Results with 82-Car Train

Length of train (estimated).....	3580 ft.						
Trailing load (82 cars).....	2273 tons						
Locomotive R-2—No. 1212.....	133 tons						
	<hr/>						
Total train.....	2406 tons						
Train make-up:							
70 empties—average weight.....	23.6 tons per car						
12 loads—average weight.....	51.6 tons per car						
82 cars (total)—average weight.....	27.7 tons per car						
Run No.	Direction	Location of loco. at start	Distance traveled, ft.	Time, sec.	Aver. speed, m.p.h.	Average tractive force, lb.	Train friction lb./ton
2	Northward	7820 ft. north of Philipse Manor	16,330	300	37.1	18,780	7.8
4	Northward	10930 ft. north of Philipse Manor	13,240	240	37.5	16,380	6.8

tion points of more than ordinary authenticity. In order that these data may be of the greatest value, complete information is given in accompanying tabulations. All values of train friction given include the locomotive as part of the train, as the locomotive resistance, in

#### Test Results with 127-Car Train

Length of train (estimated).....	5450 ft.						
Trailing load (127 cars).....	3364 tons						
Locomotive R-2—No. 1212.....	133 tons						
Total train.....	3497 tons						
Train make-up:							
119 empties—average weight.....	23.1 tons per car						
8 load—average weight.....	76.6 tons per car						
127 cars (total)—average weight.....	26.5 tons per car						
Run No.	Direction	Location of loco. at start	Distance traveled, ft.	Time, sec.	Aver. speed, m.p.h.	Average tractive force, lb.	Train friction lb./ton
2	Northward	3980 ft. north of Hastings .....	6460	140	31.5	25,800	7.38
3	Southward	812 ft. north of Ardsley .....	9870	210	32.0	25,980	7.43
4	Northward	6580 ft. north of Hastings .....	6860	140	33.4	24,000	6.86

freight service particularly, has small effect on the values obtained. The track for these points was practically level with a number of curves.

The reduction in friction on Run No. 4 for practically the same speed is due apparently to the train warming up considerably between Runs No. 2 and No. 4.

#### Motor Temperatures

In spite of the fact that the locomotive was working between 150 and 250 per cent of its continuous tractive force rating, and 150 to 175 per cent of its continuous horsepower rating a large part of the time, the maximum temperature rise in the various parts of the electrical equipment was well within safe operating limits. As a result, these locomotives are being given a rating in freight service of 3500 tons trailing for full and intermediate motor field strengths, and 3000 tons for minimum field.

An interesting sidelight on the test runs was the blower operation. The locomotive used for these runs has a thermal relay equipment for giving a continuous indication of traction motor armature temperature, an indicator being mounted on the instrument panel at each operating position. The thermal relay is of the replica type, having a current coil in series with one traction motor, a voltage coil across the armature of the same motor, and is cooled by the same ventilating air as the motor. The relay is so designed that its heating and cooling characteristics are like those of the motor for the same current and voltage conditions. During the test with the 127-car train, the traction motor blowers were operated according to the indications of this relay, being run in the high speed connection

with the motors above 100 deg. C., and in the low speed below 100 deg. C., thus demonstrating the possibility of automatic operation of the blowers by such a relay.

#### Express and Passenger Service

These locomotives handle four milk trains from Harmon each day in and out of the milk yard close to 72nd Street, and one from White Plains, north station. The trains vary from 13 cars to 30 cars, or from about 800 to 2000 tons.

The gearing on these R-2 locomotives was chosen so that when handling freight they would be able to keep ahead of local passenger trains and also could be operated at speeds up to 60 m.p.h. They are somewhat slower than the Class T locomotives regularly used for passenger service, but are capable of handling trains of eighteen 85-ton cars, which is the maximum at present and is beyond the capacity of the T locomotives. On 600 volts, one R-2 locomotive will attain a speed of 44 m.p.h. on level tangent track with eighteen 85-ton cars, while two locomotives reach a speed of 52 m.p.h. with the same train. They are regularly used on trains of from 15 to 18 cars and make just about the running time required between Harmon and Grand Central Terminal.

Although the use of a running gear with no guiding trucks is unusual in passenger work, the riding qualities of the R-2 locomotives in regular passenger service have been entirely satisfactory. During special test runs at Erie, Pa., these locomotives have been operated successfully at speeds in excess of 75 m.p.h.

As these locomotives were built primarily for freight service, it was not economical to equip them with train heating equipment. The New York Central has designed and built in its Harmon shops eight heating trailers for use with the R-2 locomotives in express and passenger service. These trailers were described in the May 14, 1932, issue of the *Railway Age*. They have proved to be an excellent solution of the train heating problem with these locomotives.

\* \* \*



The New Office Building of the Norfolk & Western at Roanoke, Va.

# Freight Damage Involves Many Car Department Problems\*

Truck springs that eliminate "bouncing" latest development—Still room for improvement in car construction and loading

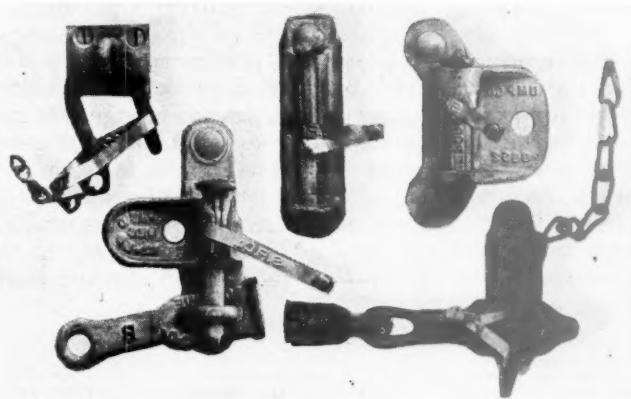
By Joe Marshall

Special Representative, Freight Claim Division,  
American Railway Association

**T**RAINMEN and yardmen are vitally interested in rough handling but they are cognizant of the fact that all damage to freight is not due to that cause. Therefore, it behooves car men to familiarize these men with what is being done to improve equipment and loading methods. Car men and trainmen have known about floor vibration for many years. In a memorandum to the Mechanical division in September, 1921, the Committee on Freight Claim Prevention named the "bouncer car" as one cause of damage, realizing that modern heavy cars, traveling at high speed, brought about damage that was reflected immediately in the loss and damage account. The up-and-down motion of cars might still be merely talked about had it not been for the fact that it was emphasized when fresh meat began falling in great volume from hooks in loaded meat cars. This was in 1925.

The evolution of this idea, which may be typical of other developments, is illustrated by patents for friction springs for truck purposes. Prior to 1921 only three patents had been issued, one each in 1899, 1909 and 1916. The next patent was issued in 1923 and since then, 21 different patents have been issued on friction truck springs.

The next marked step in the evolution occurred at the annual meeting of the Mechanical division in June, 1932, when the subject received official mention in the report of the Committee on Car Construction. This report said: "During the past two or three years, considerable development work has been undertaken by railroads and the different manufacturers for the purpose of producing bolster springs or other supporting means

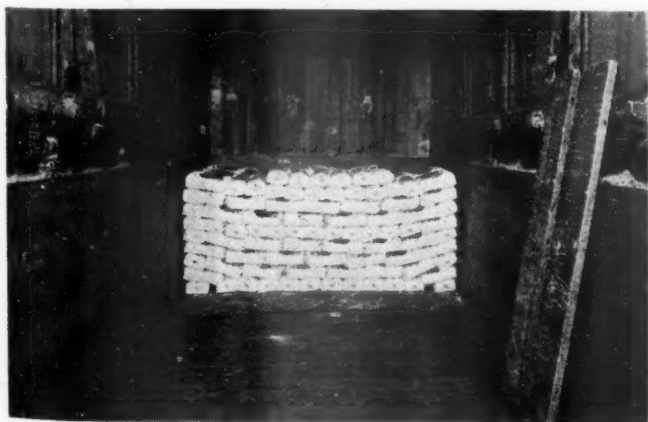


Some of the Many Door Locks—The Standardization of Locks Would Result in Economy

equipped with friction devices, or similar features, intended to reduce and control vertical oscillation and the resulting detrimental effects on lading." These developments are in the experimental stage and for some time to come applications probably will be confined to certain types of cars, such as refrigerator, stock and box, used largely for commodities requiring this protection.

The up-and-down motion of cars is of such importance to the \$15,000,000 freight damage bill paid last year that the Loss and Damage Prevention committee of the Freight Claim division has collected some pertinent data which are of value to car men and others. Foremost among this information is the relation between the actual loading and the resiliency of the springs designed to support the weight of the car and the load. Roughly speaking, the refrigerator car will weigh light 53,000 to 57,000 lb. and over; box cars, 40,000 lb. and more; and some steel cars, 60,000 lb. When a load weighing only 8 tons, such as furniture, is placed in a car, which weighs 20 tons and has a capacity of 50 tons, that load may as well be pounded on a concrete floor, since the spring is designed to support the weight of the car plus a load of 50 tons, or a total of 70 tons. This condition is further demonstrated by the average tons per car of certain commodities, taken from the report of the Car Service division, as follows:

Automobiles .....	6 Tons	Fresh meat.....	13 "
Auto trucks.....	8 "	Watermelons.....	13 "
Furniture.....	8 "	Onions.....	14 "
Berries.....	9 "	Agricultural implements.....	14 "
Cantaloupes.....	11 "	Tractors.....	14 "
Eggs.....	11 "	Lemons.....	15 "
Peaches.....	12 "	Grapes.....	15 "
Tomatoes.....	12 "	Oranges.....	16 "
Horses.....	12 "	Apples.....	16 "
Cattle and calves.....	12 "	Potatoes.....	18 "
Hogs.....	13 "	Machinery.....	18 "
		Sewer pipe.....	18 "



Great Care Is Required in Preparing the Cars

\* From an address before the Car Foremen's Association of Chicago.





Only 8 Bricks Out of 12,900 Were Chipped When Packed in Three-Sided Paper Shields

By figuring the per cent of revenue consumed during the same period by unlocated damage, rough handling, improper loading and concealed damage for car-load freight only and excluding losses, it is demonstrated that loss and damage payments on light loads and fragile commodities are highest because of vertical oscillation. The following table shows that the commodities high in the damage account correspond closely to the commodities of light tare weight in the tonnage statement.

Sewer pipe .....	7.5 per cent	Machinery .....	1.9 per cent
Furniture .....	3.0 " "	Livestock .....	1.5 " "
Glass and glassware. 2.6 " "		Beverages .....	1.2 " "
Fresh fruits & vegetables .....	1.9 " "	Merchandise .....	1.2 " "
Eggs .....	1.9 " "	Drygoods & clothing 1.0 " "	

All other commodities are under 1 per cent

At the present time, several commodities are attracting attention in connection with the study of vertical oscillation. These include sacked goods where floor vibration creates damage and prevents heavier loading; fresh fruits and vegetables where broken packages cause more trouble than with any other commodity; watermelons which shift in the car; fresh meat which falls from hooks; enameled face brick which chips; automobile tires which chafe; and dressed building stone which breaks. The so-called "hickey" damage in sheet steel occurs when vibration rolls small iron particles such as sheer splinters into pellets which create indentations called "hickeys." The same thing occurs with newsprint paper, a piece of wrapping rolling into a bullet-like wad and cutting through the wrapper and into the roll.

#### Little Things Cause Big Damage

Many little things occur in car operation which, while small, contribute to the freight claim bill of the railroads. One cause for damage will be removed by following the recommended change in graduating springs for freight triple valves in order to eliminate, so far as possible, undesired emergency applications. This recommendation was first offered by the Mechanical division in 1930 and repeated in 1931, strongly urging prompt action in changing springs when triple valves are cleaned and repaired. Certain classes of refrigerator cars are equipped with hatch covers and plugs that work as one unit and often in repairing these cars, the lug, or Z-bar which engages the plug within the hatch cover, is not replaced a sufficient distance forward to hold the plug in position when the hatch cover is raised to a 45-deg. angle. As a result, the covers do not permit ventilation

of the car. The importance of doors that do not open or close was demonstrated on August 5 in a Chicago freight house when a stower, while trying to close a door, fell and was killed. The report on this accident stated that "some doors stick at the bottom, making it necessary for a man to get on the ground and use a sledge hammer, while others stick at the top, making it necessary for a man to work from the roof." While it is often necessary to open doors in this manner, car men should not overlook the fact that many stuck doors will open or close if the weight is lifted from the hanger.

Because many causes of damage are associated with cars, they can be corrected by car men. Broken hasps on box cars and numerous kinds of locks or staples, some of which will not hold the hasp under the shock in handling, may be corrected if certain principles in the design of locks, staples or keepers were standardized.

When the men who handle cars are constantly complaining about hand brakes not operating properly, that the knuckle pins will not drop down and that they must put their fingers up under the knuckle lock and work the pin down or strike cars several times to make a coupling, such questions must be answered if interest in careful car handling is to be maintained. The car man can answer these complaints. One long standing complaint has been removed by the requirement that the rotating handle type of pin lifter lever be used on new cars and on cars receiving general repairs.

#### Defective Cars

Complaints due to defective cars have been greatly reduced but regardless of that, constant vigilance is necessary. The importance of defective cars is illustrated in the figures of one road which settled 89,652 claims for a total of \$415,197, the percentages due to defective equipment being as follows:

	Claims	Money
Dirty cars .....	0.1	0.2
Leaky cars .....	0.6	0.9
Bolts and nuts .....	0.7	0.5
Other defects .....	0.1	0.1
Total per cent .....	1.5	1.7

Seven thousand dollars was the cost on these defects.

While damage caused by dirty cars may not appear over important, shippers demand clean cars. Some shippers use shavings or sawdust to provide a clean floor for certain classes of freight. The next shipper may use the car for wool shoddy or cotton mill raw material.



A Car With "Hidden" Door Posts—Door Bracing and Boarding Above Lining Give Added Protection



The latter shipment may pick up particles not removed from the car and a dirty floor complaint results.

Many devices are used for cleaning cars. Compressed air has long been used for cleaning passenger cars and lately a number of roads have resorted to air cleaning of freight equipment. It has been so successful in removing dust, dirt and other foreign matter quickly and cheaply that the practice may see much wider application. One complaint we received concerned the use by some roads of a commercial cement for filling cracks in floors and side walls, which, in hot weather, oozed from the cracks and damaged freight. In this case one of the oil stain "sealing in" preparations might have been of help. In grain leaks we find the greatest trouble at the door and door post, mostly due, perhaps to faulty installation of grain doors. In one check of 1,185 leakers, 40.3 per cent were door post leaks, 23.4 per cent were leaks at siding, 14 per cent were leaks at corners, 12.9 per cent at the end, and 9.4 per cent were grain door leaks. One road found that the use of paper lining for wheat loading did not always stop leaks. Two transportation inspectors with masks stood in a car while the spout was running and discovered that the flowing wheat dragged the paper from the wall. This resulted in the idea of fastening such paper to the side walls in three panels, which solved the problem.

A check of 515 cars of canned goods shows 136 cars with damage at the following locations:

	Cars	Per cent
Door post .....	69	13.4
Door bracing .....	30	5.8
Rough sides, floor, nails and bolts....	26	4.0
Doors .....	11	2.1

The door post has always been in the way and we are now finding ways of eliminating it by smoothing it out against the wall or hiding it.

Another cause for damage to freight is "break-in-tows." An analysis of 209 cases according to causes shows that improper handling of slack and quick action triples are responsible for the majority of failures. Of the 209 cases, 97 were caused by improper handling of slack and quick action triples, 30 by an old break at the key way, 20 by an old break in the yoke, crystallized yoke, sheared or worn rivets or broken bolts, 14 by an old break in draft bolts and keys or cotter keys, 12 by defective draft timbers, body bolsters and end sills and 36 because of miscellaneous causes.

Delays are another cause of claim bills that can be controlled by car men, as was demonstrated at Chicago where a delay for each 111 cars in December, 1930, was reduced to one delay for each 289 cars handled during the period from January to December, 1931, and to a further reduction of one car for each 735 handled in June, 1932. An analysis of the Chicago Interchange Committee's report, covering the period from July, 1931, to April, 1932, shows that 5,890 cars handled through Chicago were set out because of car defects and of these, 924, or 15.7 per cent, missed connections. Of the cars set out, 34.6 per cent failed to pass wheel inspection, 28 per cent brake inspection, 25 per cent truck inspection, 8.9 per cent coupler inspection and 3.5 per cent car body inspection. Of the cars that missed connections, 38 per cent failed to pass wheel inspection, 25 per cent truck inspection and 20 per cent brake inspection. Because 63 per cent of the cars that missed connections failed to pass wheel and truck inspection, any future activity looking to the elimination of this trouble at the source must well begin with this 63 per cent as a means of getting the greatest results in the shortest period of time.

## Car Loading Up 25 Per Cent in Eight Weeks

WASHINGTON, D. C.

**R**EVENUE freight car loading in the week ended October 1 amounted to 622,075 cars, an increase of 26,329 cars as compared with the preceding week and an increase of 126,042 cars, or 25 per cent as compared with the loading in the week of August 6. Since the latter date there has been a steady increase for eight weeks with the exception of the natural drop during the week which included the Labor Day holiday. The total for the week ended October 1 was a decrease of 155,637 cars as compared with the corresponding week of last year and of 349,180 cars as compared with 1930, although it was hardly more than half the loading for the corresponding weeks of 1928 and 1929, which represented the peaks for those two years.

A large part of the increase as compared with the week before was in coal loading but all commodity classifications except livestock showed gains and the loading of grain and grain products showed an increase as compared with the corresponding week of last year. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

### Revenue Freight Car Loading

Districts	Week Ended Saturday, October 1, 1932	1931	1930
Eastern .....	141,127	171,477	210,641
Allegheny .....	110,859	149,008	190,002
Pocahontas .....	43,783	50,553	54,702
Southern .....	91,645	109,159	136,539
Northwestern .....	80,049	108,092	142,223
Central Western .....	99,151	122,136	154,543
Southwestern .....	55,461	67,287	82,605
Total Western Districts .....	234,661	297,515	379,371
Total All Roads .....	622,075	777,712	971,255
Commodities			
Grain and Grain Products .....	39,517	37,728	42,573
Live Stock .....	22,145	27,625	30,165
Coal .....	129,438	141,957	167,868
Coke .....	4,625	5,719	8,766
Forest Products .....	19,129	25,663	41,552
Ore .....	6,048	27,523	41,430
Mdse. L.C.L. .....	179,799	219,077	244,843
Miscellaneous .....	221,374	292,420	394,058
October 1 .....	622,075	777,712	971,255
September 24 .....	595,746	738,036	950,663
September 17 .....	587,302	742,614	952,561
September 10 .....	501,824	667,750	965,813
September 3 .....	559,727	759,871	856,649
Cumulative total, 39 weeks .....	20,976,758	28,721,707	35,349,201

### Car Loading in Canada

Car loading in Canada for the week ended October 1 amounted to 51,813 cars, which was less than the previous week's total by 102 cars. Loadings last year for the thirty-ninth week were particularly light, especially grain, and last week's loadings were greater by 1,226 cars, grain being heavier by 9,858 cars. Other forest products and coke were heavier also, but all other commodities recorded decreases. The index number dropped from 68.94 to 67.36.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
October 1, 1932 .....	51,813	19,334
September 24, 1932 .....	51,915	19,007
September 17, 1932 .....	55,523	17,954
September 26, 1931 .....	50,587	21,587
Cumulative Totals for Canada		
October 1, 1932 .....	1,625,157	743,092
September 26, 1931 .....	1,888,587	999,805
September 27, 1930 .....	2,378,200	1,306,341

THE LONDON, MIDLAND & SCOTTISH of Great Britain has recently completed the electrification of its line from Barking to Upminster, 7¾ miles, in the London suburban area.

## Short Lines See Danger of Government Ownership

WASHINGTON, D. C.

THE executive board of the American Short Line Railroad Association has distributed among its members and owners and officials of all short and weak railroads a special report relating to the emergency conditions confronting the railroads and "the very serious danger of the government having to take possession of some of the railroads, leaving others to be scrapped, and the appalling losses that will almost certainly result." The report calls upon the members, "all short and weak non-members, and the larger roads, and upon the great public to co-operate in a concerted effort to save the railroads." Part of the report is devoted to a resume of the experience in various countries where the government has taken over railroads and predictions of some of the results that would follow if the United States government should take over and operate the railroads.

"Conditions surrounding the railroads are deplorable, if not intolerable"; the report says, "hence their owners are confronted with a great emergency. Disaster looms ahead for all roads, strong and weak, long and short, and if relief is not soon obtained the losses to their owners will be enormous.

"During the last few years the owners of the railroads have been deprived, at an alarmingly increasing rate, of their constitutional and legal right to control and operate their properties, as the result of government assumption of such rights, through regulation, restrictive and otherwise.

"The revenues of a large majority of the roads are less than their operating expenses, which now have been reduced to a minimum. A limited number are earning some part of their fixed charges; a much smaller number are still earning their fixed charges; but few, if any, are earning enough to pay their owners any return upon their investment.

"The result of that distressing condition is that the roads that do not earn their expenses and/or their fixed charges are constantly increasing their obligations; and it is apparent that roads that have maturing bond or other obligations must pay or renew, or default and go into receivership.

"As to the maturing obligations, the fact that the credit of most roads has been utterly destroyed presents an almost insurmountable problem.

"Funds obtained through loans from The Railroad Credit Corporation, or from the Reconstruction Finance Corporation, will afford temporary relief and 'postpone the evil day,' but will not liquidate existing obligations; in fact, the real effect is to increase such obligations; and to the extent they are obtained from the Reconstruction Finance Corporation—which is the government—if they be not repaid when due, that will be a step, and a long one, in the process of transferring such properties to the government.

"We recognize that some proper and beneficial things have been done by the government, by the Interstate Commerce Commission and by a majority of the state commissions, but the marked tendency of all of them has been to usurp the rights of the owners, and restrict the management of the business, until successful operation no longer seems possible.

"Beyond doubt many things have combined to cause present conditions. We recognize the fact that the

owners and managers of the railroads have made mistakes in some instances and in years past owners have done things that were wrong, hence they are not free of blame. However, most, if not all, of the things that really were wrong and a large proportion of the mistakes of the managers have been corrected, and the remainder of such mistakes are being, and no doubt will be cured. In any event the effect of such wrongs and mistakes is small, very small, as compared with the injury done the railroads through governmental action by way of excessive regulations, direct and indirect subsidized competition and taxation.

"The present depression in business has, of course, greatly decreased the volume of traffic moved and the revenue of the roads, and it has at the same time brought into clear view that the existing rigid and arbitrary control by governments, if continued, will effectively prevent successful operation by the owners, even when traffic returns to what may be termed normal.

"We confidently expect that the business of the country will improve; that the volume of traffic will increase and that the railroads will move a large part thereof; that their income will be greater, all of which will be helpful and gratifying, but without substantial and material changes in the laws and regulations governing the roads, the possible benefits that follow any increase of traffic and income will be both temporary and inadequate.

"The railroads are now with their backs to the wall, and have been so limited and restricted that they have had little, if any, opportunity to turn to the right or left. Their only way is to go forward and fight, vigorously, for their rights; and we strongly favor that course.

"If the public can be made to understand, there is reason, good reason, to expect that present conditions can be overcome, and the railroads can be saved from disaster for both the public and the owners.

"The railroads do not want contributions or support out of the treasuries of the governments. What they do want, and must have, is a complete change of the present unfair and restrictive policy and control now being imposed upon them. It is imperative that the government release, and that soon, the 'stranglehold' it has upon the roads, and permit them to conduct the transportation business of the public in a way that is fair to both.

"It will be almost impossible to accomplish that necessary object under existing laws and regulations. In view of that fact we believe Congress should enact a new and comprehensive law with respect to transportation, not only by railroads, but all of the other agencies engaged in that business. That law should provide for fair and reasonable regulation for *all kinds* of transportation facilities, and should make impossible a continuance of the present hostile attitude towards the railroads. It should, in fact, make the present *declared* policy of Congress 'to foster and preserve in full vigor both rail and water transportation' the *real policy* to be enforced.

"It follows, in our opinion, that the true interest of the public and all engaged in the transportation business, requires a change of the present restrictive policy and regulation in the great majority, if not all, of the states, and that new laws therein be enacted and enforced."

NEW YORK, OCTOBER 4, 1832.—(From the New York Evening Post.)—Reeside's new line of stage coaches from Philadelphia brought up, at half past three p. m. yesterday, the morning papers of that city, so that the passengers may have breakfasted in Philadelphia and dined in New York.





One of the Lehigh Valley's Ten New Baldwin Locomotives in Sayre, Pa., Yard

## Lehigh Valley Locomotives Return 38 Per Cent on Investment

Outlay of \$2,340,000 for new motive power brings direct savings amounting to \$900,000 a year

**T**HE Lehigh Valley is realizing savings equivalent to approximately \$900,000 a year—an annual return of 38 per cent—on its recent investment of \$2,340,000 in new locomotives. This figure is based on the present utilization of the 20 locomotives acquired, and thus indicates the measure of economies attendant upon a judicious investment in modern facilities even under existing light traffic conditions.

The new locomotives are of the 4-8-4 type and are assigned to through fast freight service between the Niagara frontier and tidewater at Jersey City, N. J. Ten were purchased from the American Locomotive Company and ten from the Baldwin Locomotive Works. Before deciding upon the purchase of these locomotives, the Lehigh Valley made a careful study of its motive power requirements for present-day freight

movements, arriving at a definite conclusion as to the tonnage and schedule times desired for movement of its fast through freight trains. No specific design of locomotive was determined upon, but the American Locomotive Company and the Baldwin Locomotive Works were each asked to design a locomotive which would meet the road's requirements; the only restrictions were those of weights, clearances and certain equipment details.

Accordingly, in 1930, the Lehigh ordered two test locomotives, one from each of the two fore-mentioned builders. These two test locomotives were described in the *Railway Age* of April 4, 1931, page 669, and an article recounting their successful performances in road tests was published in the *Railway Age* of March 19, 1932, page 469. The only substantial difference be-



Lehigh Valley Train Hauled by One of the New Locomotives Purchased from the American Locomotive Company



tween the test locomotives and the 20 new ones is in the water and coal capacity; tenders of the new locomotives have a capacity of 20,000 gal. of water and 30 tons of coal, instead of 18,000 gal. and 28 tons as on the test locomotives. It was found in this connection that while the 18,000-gal. tanks did the expected job—to operate between division points without water stops—the margin on some runs was not quite what was desired. The increased capacity was therefore decided upon when it was found possible to provide for it without change in design.

#### Direct Savings Large

The \$900,000 annual saving mentioned at the outset represents direct operating economies resulting from increased tonnages, which have permitted the elimination of 650,000 train-miles a year, greater fuel efficiency, fewer water stops and reduced helping services. The 20 new locomotives replaced 40 of the older 4-6-2 and 2-8-2 types on the Niagara frontier-Jersey City runs. With a reassignment of these latter and of others which they in turn supplant, the resultant total saving is expected to become more than \$1,000,000 a year.

The distance between Suspension Bridge, N. Y., the Lehigh Valley's Niagara frontier interchange point, and its Oak Island yard in Jersey City is 449 miles. To accommodate shippers and consignees at the seaboard and at the same time make the required connections at the Niagara frontier it is necessary to operate over this run on 18- and 20-hr. schedules. Most of the trains to which the new locomotives are assigned are run through without breakup, although in some instances important cars for local points are set out at intermediate stations. Also, some of the trains—those to or from Philadelphia—are handled by the Lehigh only between Suspension Bridge and Bethlehem, Pa.

#### Helper and Fuel Requirements Reduced

The preponderance of traffic is eastbound, and the ruling grade in that direction is between Coxton, Pa., and Mountain Top, a distance of 20 miles with a rise of 65 ft. to the mile. Here the old locomotives, hauling from 2,200 to 2,500 tons, required one and sometimes two helpers, whereas the new locomotives can haul from 3,000 to 3,500 tons with one helper. The result has been a reduction of five helping trips per day in this district. A like reduction has been made in the district between Easton, Pa., and West Portal, N. J., where the eastbound rise is 22 ft. per mile, and the westbound, 47 ft. No helping service is now required on this section of the line for trains hauled by the new locomotives.

Three of the older locomotives were assigned to each through run from Suspension Bridge to Jersey City, which now requires but one of the new locomotives. Changes were formerly made at Manchester, N. Y., and Sayre, Pa. To handle each round-trip daily schedule, only three of the new locomotives are now required. They are operated on a "first in-first out" basis, and each makes approximately 10,000 miles a month.

No adjustment was made in the crew assignments, and crews, as formerly, are changed at Manchester, N. Y., Sayre and Packerton, Pa. At these three points, and also at Coxton, water is now taken, but five water stops have nevertheless been eliminated since the old locomotives took water at points between these terminals as well. The tank capacities are now amply sufficient to carry the locomotives from one division terminal to another in every instance.

Fuel economies result from the fact that the more powerful locomotives will, with the same fuel consumption, haul heavier trains and thus produce more gross ton-miles per pound of coal; the saving in fuel on this unit basis is about 10 per cent. Also, there is a considerable saving in fuel as a result of reduced stand-by losses. The trains now being hauled consist of from 80 to 90 cars, or 25 more cars than the old locomotives handled, while schedules have been accelerated by 10 to 15 per cent. The new locomotives do not, of course, handle their maximum tonnages. They could handle 4,500 tons at slower speeds.

It should be pointed out, in connection with the economies mentioned herein, that the estimates of savings were compiled on a conservative basis. The aggregate of train-miles eliminated was the base to which was applied a carefully scrutinized and thoroughly substantiated unit saving per train-mile. Only those items of expense which the installation of the new power has actually eliminated were permitted to enter the calculation.

## Improvement in Safety Record Predicted

WASHINGTON, D. C.

A 90 per cent reduction by 1939 as compared with 1923 in the number of casualties to railway employees was predicted by Charles E. Hill, general safety agent of the New York Central Lines, in an address at the closing session of the annual convention of the Safety Section of the American Railway Association at Washington on October 6, following his election as chairman of the section for the ensuing year. The comparison was made with 1923, the first year after the inauguration of the section's safety program.

"The railroads in the past 33 months," said Mr. Hill, "have carried the equivalent of 16 times the entire population of the United States with only 11 passengers having lost their lives as a result of accidents to railway trains resulting from collisions and derailments. Of the 11 fatalities, seven occurred in 1930, four in 1931, but none in the first nine months this year. In 1923, 29 persons lost their lives in train accidents.

"The marked success of the railroads in reducing the number of accidental deaths and injuries among both passengers and employees did not result from chance but from systematic plans and an intensive drive made by the safety organizations of the various railroads of the United States designed to bring about a reduction in all kinds of accidents on the railroads. Railway executives have come to the conclusion that safety has not only a human value, but definitely affects the drain on the financial resources of the railways.

"Of the approximately 180 Class I railroads in the United States," said Mr. Hill, "22, representing about 40 per cent of the total mileage, have already accomplished this result and what these roads have done, the others can do."

Frank R. Bradford, director of safety and fire protection, Boston & Maine, gave a talk on "Planning For Safety In Track Construction" in connection with a motion picture "Rail Laying on the Line of the Minute Man", illustrating one of the modern methods of main line rail renewal, replacing 100-lb. rail with 130-lb. rail on the double track main line of the Fitchburg division between Greenfield, Mass., and Johnson-

ville, N. Y., which was described in the September, 1931, issue of Railway Engineering and Maintenance.

Lem Adams, engineer maintenance of way, Union Pacific, read a paper on "Power Apparatus in Maintenance of Way Work", also illustrated with motion pictures showing the use of the various kinds of power equipment and illustrating ways in which they often reduce the hazards. All power-operated tools, he said, are unfortunately not the safest to use, although they are great labor savers, but efficiency and accuracy of work demand their use and with proper care on the part of the operators they can be handled with safety. It is regrettable, Mr. Adams said, that power tools take the place of a large number of men in maintenance of way work, but they do greatly reduce the hazard of many operations that were made dangerous by large groups of men working too closely together.

Other papers were: "Value of Safe Practices Committees," by F. Hartenstien, assistant to general manager, Pere Marquette; "Safety to Employees While Operating Locomotives," by C. L. La Fountaine, general safety supervisor, Great Northern; "Stripping and Erecting Locomotives," by J. W. Lemon, superintendent of shops, Missouri Pacific; "Tackling the Worst Hazards in the Car Department", by W. R. Dunbar, divisional car foreman, Delaware & Hudson; and "The Bridge and Building Gang", by J. P. Wood, supervisor of bridges and buildings, Pere Marquette.

In addition to the officers elected for the ensuing year, as reported last week, the following were elected as members of the committee of direction: F. Hartenstien, assistant to general manager, Lehigh Valley; H. A. Rowe, manager claims department, Delaware, Lackawanna & Western; C. N. Woodward, assistant to general manager, New York, New Haven & Hartford; Robert Scott, director, insurance and safety, Atlantic Coast Line; A. O. Beck, director, first aid and accident prevention, Canadian National; F. W. Curtis, supervisor, safety and fire prevention, Denver & Rio Grande Western; E. G. Evans, superintendent safety, Louisville & Nashville; C. F. Larson, superintendent safety, Missouri Pacific; F. M. Metcalfe, superintendent of safety, Northern Pacific, and J. T. Pratt, supervisor of safety, Reading.

EIGHT SHORT-LINE SPANISH RAILROADS will be discontinued in the near future, unless the deficit to run them is met by interested organizations, according to a report to the Commerce Department. The law of May 12, 1932, relieved the Spanish government of the obligation of operating for a period such railways as concessionary companies abandoned, this report stated. However, if the roads were of general interest, of normal gage, and if the rolling stock were safe, the state could continue operation and meet the deficit out of consideration of matters of national economy. The state could not continue indefinitely to meet the 100,000 peso monthly deficit of these eight lines, so unless some arrangement is made by interested municipal, provincial and other public or private organizations, to divide the deficit, operation will be discontinued.

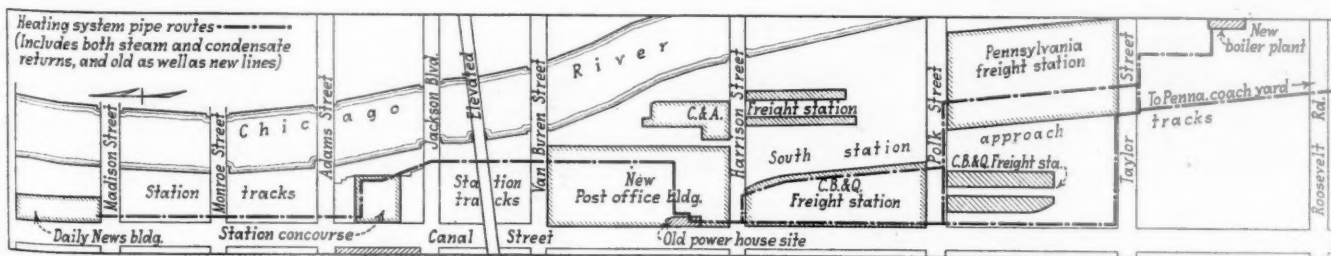
## Union Station Installs Long Steam Lines

**A**IR-RIGHTS developments over railway tracks involve many ramifications, but none is more unusual than the utility service conducted by the Chicago Union Station in the production and sale of steam and its distribution through more than a mile of pipe lines. For several years the station company has supplied steam not only to its own buildings, but also to the Chicago Daily News building, two large freight houses and a large coach yard. Work is now under way on a pronounced expansion in this steam service incident to the construction of the new city post-office over the south group of station tracks. Owing to the fact that the ground area of the new postoffice embraces the site of the plant in which the steam was generated heretofore, it has been necessary to construct an entirely new steam generating plant of much greater capacity and which, because of its remote location relative to the various buildings served, entails the transmission of steam for a maximum distance of  $\frac{3}{4}$  mile. A large part of the old transmission lines are incorporated into the new system, but the reconstruction and additions to the steam pipe line and condensate return line constitute an important feature of the project, and embrace several distinctive features.

### Transmit Steam Long Distances

The new plant, which will contain four steam generating units, each having a capacity of 130,000 lb. of steam per hour, is under construction at a point about 2,000 ft. south and 1,000 ft. east of the former plant at Harrison street, and is on the opposite side of the Union Station tracks. The steam transmission system, therefore, is designed to carry steam from this plant to a connection with the existing system at the site of the old plant. The new system consists principally of a double line of 12-in. extra-strong steel pipes which serve as the steam mains and lines of 8-in. and 3-in. extra-strong wrought iron pipe serving as the condensate returns. The installation required approximately 6,000 ft. of the 12-in. steel pipe and 3,500 ft. of 8-in. and 600 ft. of 3-in. wrought iron pipe. Genuine wrought iron was selected for the condensate return lines because of the severe corrosive action commonly experienced in such lines. In addition, 900 ft. of 10-in. and 800 ft. of 8-in. steam lines, which were already in place as a part of the original system, were utilized in the new layout although the direction of the steam in each case was reversed.

The entire system is carried overhead, for the most part, on existing structures, although a structural steel viaduct about 600 ft. long was constructed to carry the two steam lines and the 8-in. return line from the power plant north to the viaduct which carries Taylor street across the south station approach tracks. In order



Small Scale Map Showing the Long Distance Steam Transmission Lines—Tracks Not Shown



to avoid damage to both of the 12-in. steam mains simultaneously in the event of an accident, they are carried across the tracks at different points, one steam main and the 8-in. return line crossing on the Taylor street viaduct and the other steam line crossing on the Polk street viaduct farther north. Approximately 1,800 ft. of steam line and 1,500 ft. of the 8-in. return line are suspended from the superstructures of various street viaducts, the remainder of these lines, except that portion carried on the special structural steel viaduct, being hung from the ceilings or supported from the columns of the Pennsylvania and Burlington freight houses through which they pass. Both of these structures are supplied with steam from the new system.

#### Details of Construction

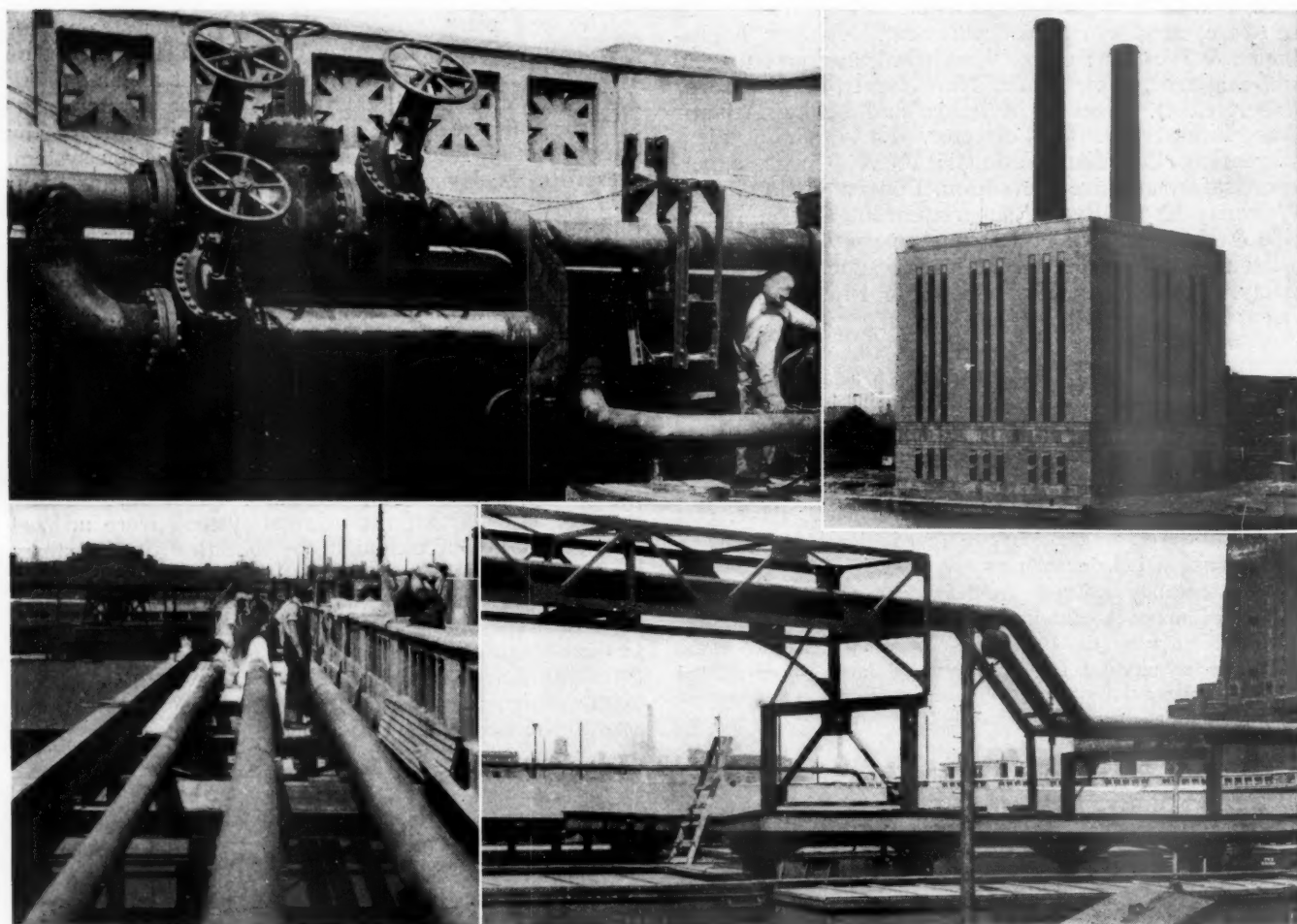
The steam and return lines are insulated with 85 per cent magnesia covering, which is protected with heavy waterproofed felt paper where the lines are out of doors. Where the pipes are supported from viaducts the steam and return lines are carried on rollers in specially designed hangers that are bolted to the concrete of the viaduct balustrades. In the freight houses the lines are carried on rollers suspended from the ceiling in hangers or supported from the columns on brackets. An interesting feature of these roller supports is the manner in which the pipe is supported on the rollers without interfering with the continuity of the insulation. The bearing consists of a curved steel plate separated from the pipe by the thickness of the magnesia

covering, by means of two small T-bars that are spot welded lengthwise to the concave surface of the plate.

The steam and condensate return lines are of all-welded construction. The 8-in. wrought iron pipe, which was supplied by the A. M. Byers Company, Pittsburgh, Pa., was furnished in lengths of about 40 ft. by the shop welding of two random lengths together, thereby reducing the field welding nearly one-half. In the freight house, pipe bends in both the steam and return lines provide for expansion and contraction, but where the lines are carried on street viaducts bends are out of the question, necessitating the use of expansion slip joints. The type of joints used consists of a chromium plated sleeve which is welded to one section of the pipe and which slides into a cylinder welded to the adjacent section.

At points where the steam lines enter buildings, triple-duty non-return valves are provided which shut off the flow of steam in the event that a break in the pipe occurs somewhere in the building, thereby reducing the hazard of injury to the occupants. The steam is paid for by the various consumers on the basis of the number of pounds delivered, which is recorded by a meter located at the steam connection to each building.

The pipe line was designed and its installation was supervised by Battey & Kipp, Chicago, consulting engineers retained for the steam generating plant project. The work was also under the general direction of O. H. Frick, general manager, and C. E. Cox, assistant chief engineer, Chicago Union Station Co.



Typical Views of the Chicago Union Station Steam Service Project

Upper Left—A valve station on Canal street (before insulation was applied), condensate return line in front of the man at the right. Upper Right—The new steam generating plant. At the Bottom—Two views showing the two 12-in. steam lines and the 8-in. condensate return line.

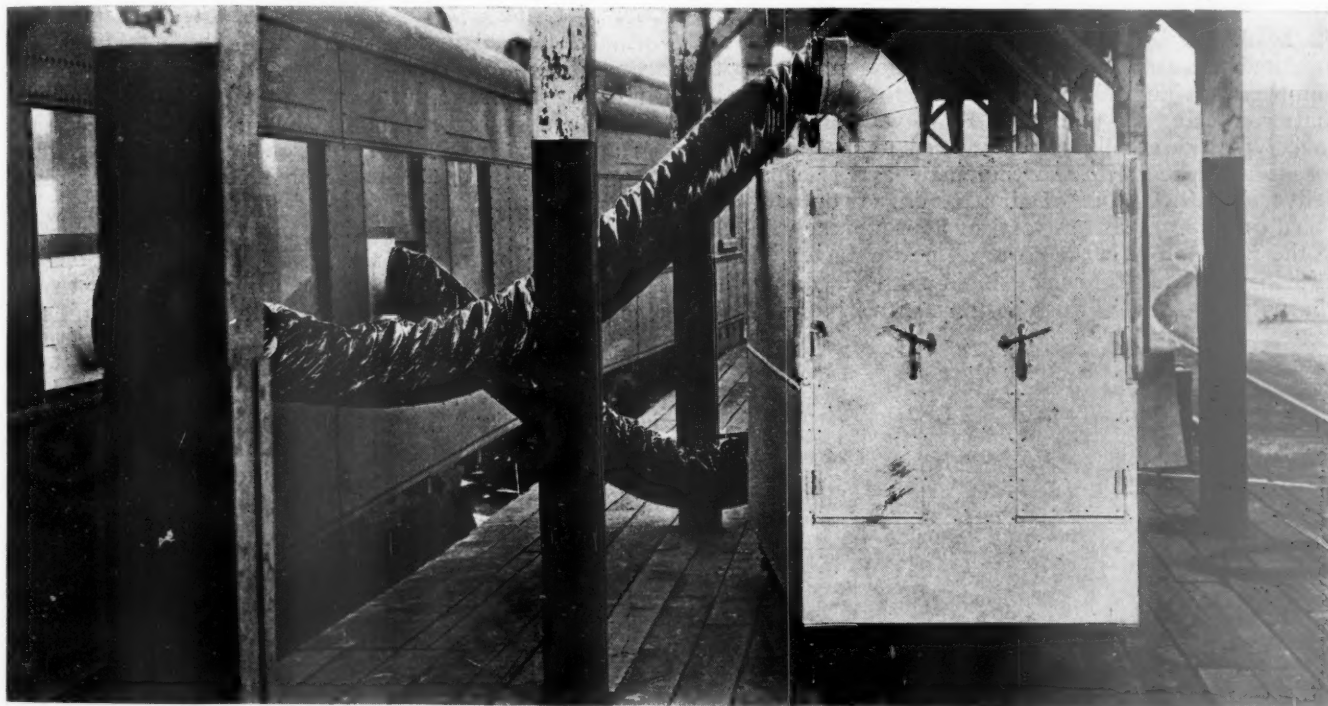


## Precooler for Passenger Cars

**A** PRECOOLER, of large capacity, for passenger cars has been developed by the American Car & Foundry Company, New York. This equipment, which uses ice as the cooling medium, was designed so that large quantities of cool air properly conditioned are immediately available. This feature was incorporated into the precooler with the object of reducing the amount of time required to precool railway passenger cars. It washes, cools and dehumidifies the air. The body of the precooler is of galvanized iron,

end of the precooler. This duct has its discharge end secured to a metal window slide attachment, which can be easily inserted in the parting strips of the car windows after the windows are raised. If a car is to be precooled prior to the entrance of passengers, it is recommended that an inside duct be attached to the inside of this window attachment and laid on the floor in the aisle of the car.

The A.C.F. precooler recirculates the air. This is accomplished by a canvas suction duct, the entrance port of which is placed on top of the precooler near the blower end. The car end of this suction is attached to a second window slide, as shown. Both the discharge and suction ducts attached to the precooler are 13 in. in diameter and are not over 5 ft. in a length, a feature which insures ease in handling at stations and also re-



Precooler as It Appears When in Operation—The Blocks of Ice Are Placed in the Precooler Through the Two Doors in the Rear

covered with aluminum paint. The precooler is 7 ft. 11 in. long, 3 ft. 7 in. wide and 6 ft. 7 in. high. The total weight, without ice, is 2,000 lb. It has a capacity for 1,200 lb. of water ice, which is placed in two ice chambers, each having a capacity for two 300-lb. blocks of ice.

The blocks of ice stand on end and are supported by sloping grates so that the bottom portion of the forward blocks are covered by the water in the well. Jets are installed along the sides and ends of each chamber for spraying water on the blocks of ice. This water trickles down over the ice and cools the well water to about 40 deg. F. Between the two series of vertical ice blocks is an air chamber which serves as a precooler for the warm intake air. This air after being precooled is circulated into two side passages located at the end of the air chamber, and is circulated over the ice and through the water sprays. Eliminator plates are located at the forward end of the ice chambers through which the air is circulated by a dual blower.

Entrained water is prevented from entering the air chamber by these eliminator plates. A blower circulates the air through a waterproof canvas duct which is attached, as shown in one of the illustrations, at the front

duces the loss by heat transfer through the canvas duct. The inside discharge duct which is laid along the aisle of the car is 12 ft. long.

The reservoir for the cooling water is of sufficient capacity to allow for a two-hour run before draining. A drain operated by a valve is provided at one side of the outlet port of the precooler. A hose can be attached to the end of this discharge pipe for discharging the accumulated water.

The precooler is iced from the rear through two insulated doors. No opening or projection of any kind is placed on the sides of the apparatus. It is built as narrow as possible. The canvas ducts are attached at the end and top and the icing doors are placed at the rear to avoid obstructing station platforms.

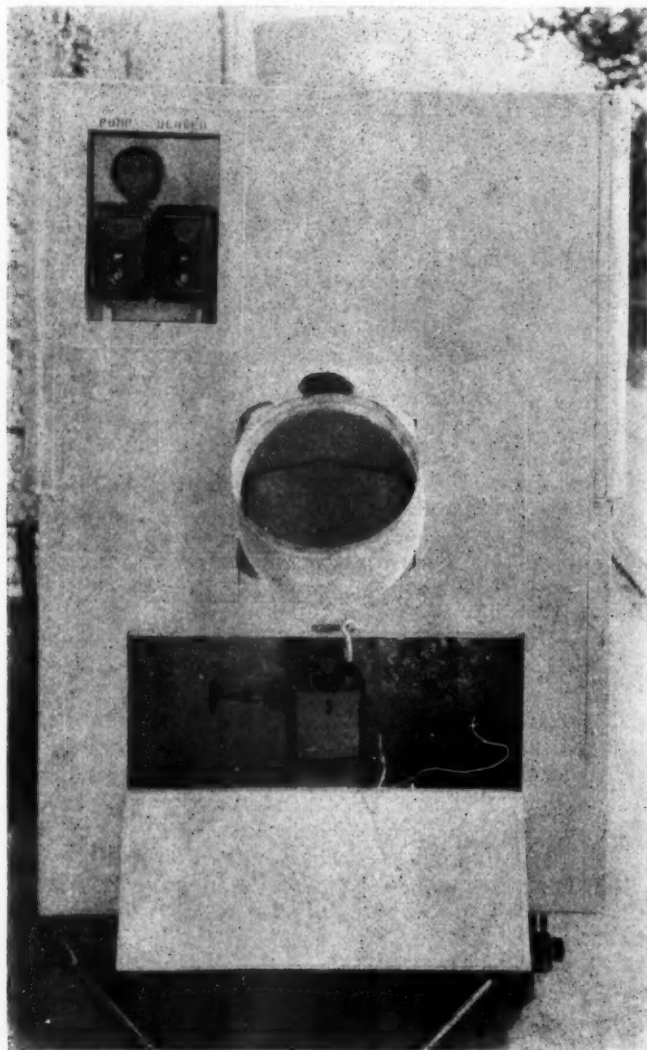
This precooling equipment is mounted on ball-bearing casters provided with a tongue attachment at one end so that it can be moved either by a tractor or by hand. Rubber-tired wheels can be furnished if desired. The precooler is designed so that flexibility in the use of the ducts can be obtained since conditions at different terminals are not always the same.

If the railroad does not desire to recirculate the air, atmospheric air can be utilized by simply detaching the

top suction duct from the precooler. If it is objectionable to use the inside duct in the car owing to the necessity of allowing passengers to enter while the precooler is in operation, air can still be recirculated by the use of a long discharge duct in place of the short 5-ft. suction duct.

Three schemes of operation are possible with this precooler. It is obvious, however, that conservation of ice is best secured by recirculating the air and the most efficient operation is by the use of the short discharge and suction ducts and by placing an inside discharge duct on the floor of the car.

Two motors are used, one pump motor of  $\frac{1}{3}$  hp. and a blower motor of  $\frac{3}{4}$  hp. They are furnished so that they can operate on 110 or 220 volts. Safety switches are provided for both the pump and blower motors. The centrifugal pump, a Worthington  $\frac{1}{3}$  hp. rating at 3,400 r.p.m., has a capacity of 15 gal. per min. under a 35-ft. head. It is directly connected to the motor and mounted on a substantial base. The suction pipe for the pump is provided with a fine screen to prevent foreign matter entering the pump. A Sturtevant dual squirrel-cage type blower, directly connected to the  $\frac{3}{4}$ -hp. motor, is furnished with the equipment and is capable of delivering 2,000 cu. ft. of air per min. It operates at a speed of 1,730 r.p.m. A total of approximately  $1\frac{1}{2}$  hp. in the two motors is the required power factor, usually utilizing 220-volt, 60-cycle, single-phase or three-phase alternating current. Push-button control is provided.



Front View of the A.C.F. Precooler Showing the Push-Button Control and Pump Installation

## Increases in State Rates Required by I.C.C.

WASHINGTON, D. C.

INTRASTATE freight rates required by state railway and public utilities commissions in nine states, through failure or refusal to permit the application of surcharges corresponding to those authorized by the Interstate Commerce Commission for interstate traffic effective on January 4 in the fifteen per cent rate advance case, were found, with some exceptions, to result in unjust discrimination against interstate commerce in a decision of the federal commission dated September 29 and announced on October 11 following a series of investigations instituted on petition of various carriers. Orders for the removal of the discrimination will be entered in accordance with these findings, the commission said, except where state commissions notify it on or before November 1 that they will promptly permit the increases required. If an order is necessary in any part, it will be issued on or immediately after that date and require the establishment of the increased rates on short notice.

An order discontinuing the proceeding so far as it related to the rates in Arizona was entered on the ground that the carriers are apparently willing to accept the viewpoint of the Arizona Corporation Commission, which had granted the carriers' application to apply the surcharges on state traffic except as to cottonseed meal and cake, copper ore and concentrates, lead ore and concentrates, ore and concentrates, n.o.s., and fluxing stone in carloads. Upon the carriers' request the hearing in this part of the case was cancelled and the commission assumes that they will cancel the surcharges on corresponding interstate traffic moving under like conditions.

As to Kentucky the commission's findings apply to all rates which were increased for interstate traffic. As to rates in Arkansas, Idaho, Louisiana, Montana, Nebraska, Oklahoma, Texas, and Utah, exceptions are made as to some commodities.

In denying the railways' application for a 15 per cent increase in freight rates last year the commission authorized as temporary surcharges, to expire on March 31, 1933, unless the time is extended, increases which it describes as "very small, varying from 6 cents per ton to 2 cents per hundred pounds" except on certain commodities, largely agricultural products, which were excluded. On the basis of the traffic of 1931, intrastate as well as interstate, it estimated that the increases would yield from \$100,000,000 to \$125,000,000 per year; but it now says that "due to a further sharp drop in traffic, the indications are that a much smaller sum will be realized in 1932," and it refers to testimony by E. G. Buckland, president of the Railroad Credit Corporation, that the fund which is being administered by that corporation as a loan fund, is likely to fall \$40,000,000 short of meeting the fixed-charge needs for which it was created.

Reviewing the proceedings in Ex Parte No. 103, the commission's report points out that there was no finding that each and every rate so increased would be a maximum reasonable rate, because a finding on this point would be both impracticable and unnecessary. It did, however, state that the rates selected were those which it believed could be somewhat increased "without causing the traffic to be transferred to other agencies of transportation and without bringing about an undue disturbance in business conditions or transgressing the



bounds of maximum reasonable rates," and that "This selection was made in the light of detailed evidence of record in regard to the various commodities and the conditions surrounding their transportation, including the competition of other agencies of transportation. There was no requirement, however, that the rates so increased would be maintained as minimum rates, and the carriers were left free to reduce them, if experience should show that more traffic and revenue could be obtained by a reduction." The report also said:

In the administration of the interstate commerce act a definite class of cases has come to be recognized where the paramount question is the general level of rates throughout the country or in territorial parts thereof, i. e., whether the aggregate revenues of the carriers shall be increased or reduced by a change in this general level. These are known as general-revenue cases. For reasons which are apparent, it is impracticable in such proceedings to consider individual rates. It is necessary to deal with rates in the aggregate or by broad classes, and the rights of shippers and carriers with respect to individual rates are protected by a saving clause which makes the general findings without prejudice to subsequent findings in individual situations. The Supreme Court has recognized the practical necessity of dealing with the general rate level in this way.

Ex parte No. 103 also was a general-revenue case and it dealt in the aggregate with broad classes of rates throughout the entire country. It approved general increases of those classes without consideration of individual rates, and protected the rights of shippers and carriers with respect to such rates by the saving clause, already quoted, that the "resulting rates will in all respects be subject to investigation and determination as to the lawfulness of particular rates or schedules of rates, as provided by the act." Revenue considerations affecting the operations of the carriers in their entirety, both intrastate and interstate, were paramount in the findings, and the existing rates to which it was contemplated that the increase would be applied were the result of a comprehensive system of public regulation which had been in force, in both the Nation and the states, for many years.

The plan of augmenting the revenues of the carriers which was adopted was framed in the light of the conditions disclosed of record and in the hope that it would help the general financial situation with benefit to all concerned, and it sought to produce the maximum effect of this character consistent with the imposition of minimum burdens upon distressed industry and minimum disturbance of business conditions. To this end it appealed to a spirit of cooperation on the part of both shippers and carriers. It was so received, very generally. The increases, which have come to be known as surcharges and will be so termed hereinafter, became uniformly effective interstate on January 4, 1932, and in general have since been maintained. In a spirit of cooperation the state commissions also permitted them to become quite generally effective intrastate. We are dealing in the instant proceeding with certain of the comparatively few exceptions where the surcharges were not permitted to become effective intrastate.

Prior to the transportation act, 1920, we had authority over intrastate rates, for the protection of interstate commerce, only under section 3 of the act to regulate commerce. As a prerequisite to the exercise of such authority, therefore, it was necessary to find that the intrastate rates were causing undue or unreasonable advantage, preference, or prejudice as between persons or localities in intrastate commerce on the one hand and interstate or foreign commerce on the other hand. In 1920, however, by what is now paragraph (4) of section 13 of the interstate commerce act, our authority was enlarged to permit us to regulate intrastate rates, not only under the circumstances above described, but also if it were found that they were causing "any undue, unreasonable, or unjust discrimination against interstate or foreign commerce"; and such discrimination was "forbidden and declared to be unlawful."

In *Wisconsin R. R. Comm. v. C., B. & Q. R. R. Co.*, 257 U. S. 563, this new provision was interpreted.

It is, therefore, clear that we have authority over intrastate rates for the purpose of protecting the general revenues of the carriers needed in the maintenance of an adequate national railway system, and wherever necessary "to restrain undue limitation of the earning power of the interstate commerce system in doing state work."

The present investigation is the outgrowth of a general-revenue case in which we considered the revenue needs of

the carriers in their entirety, without distinction between interstate and intrastate traffic. All that the petitioning carriers are here seeking is an opportunity to apply the same surcharges on certain intrastate traffic as have already been applied and are in effect on corresponding interstate traffic, and also on much corresponding intrastate traffic. Whatever relationships existed between the intrastate and the interstate rates prior to the increase in the latter will be restored, if this opportunity is granted, and until it is granted they are disrupted. Under such circumstances, and keeping in view the great remedial purpose of the 1920 legislation, the nonapplication of the surcharges intrastate creates, in our opinion, a "disparity in intrastate rates" within the meaning of the court in the *Wisconsin* case. Any order requiring the removal of such a disparity should, of course, be accompanied by a saving clause like that which was approved in that case.

Manifestly both classes of rates must be dealt with in the same way, and subject to similar reservations protecting the future, if the transportation needs of the country are to be met, to say nothing of the extraordinary conditions and the serious financial emergency by which we were confronted in Ex parte No. 103.

A finding as to the future revenue effect of increased rates is not, strictly speaking, a finding of fact but a prediction. The evidence may be such that a prediction may be made with reasonable assurance of accuracy and in such instances it sufficiently approximates a fact so that a finding is justified. In other instances the result may be wholly problematical, and no definite finding can be justified. We have never felt that we ought to forbid a proposed increase in rates on the sole ground that we are unable to find that it will accomplish its purpose, where the outcome is plainly a mere matter of judgment. The decision of such questions of judgment is a responsibility of management, and we are not the managers of the railroads.

In Ex parte No. 103, voluminous evidence in regard to the probable revenue result of the proposed 15 per cent increase in rates was presented by shippers and little or none by the railroads. In view of competitive conditions, the trend of commodity prices, and other factors, we were convinced that such an increase would in the end hurt rather than help the earnings of the carriers, and hence disapproved it. We were not persuaded that the much smaller surcharges, which we finally approved, would have a similar result. The evidence did not justify a definite finding on this point, and we left the application of these surcharges to the judgment of the managements. If the results were unfavorable, the managements were also left free to eliminate the surcharges or reduce the rates still further. A similar policy should, we believe, be followed in this proceeding.

While we have indicated our general conclusions upon these three controverted points they will not here be applied in any rigid way and we shall take into consideration the special circumstances and conditions, if any, which surround each case and which are disclosed of record.

Before proceeding to the consideration of the evidence submitted in each of the separate parts of the proceeding, certain other general observations are desirable. No reason appeared in Ex parte No. 103 for adjusting the surcharges to differing transportation conditions in different parts of the country. There is, therefore, no occasion in this proceeding for considering similar differences in transportation conditions between state and interstate traffic. While the evidence before us would in many instances justify findings of undue or unreasonable advantage, preference, or prejudice as between persons or localities in intrastate commerce on the one hand and interstate or foreign commerce on the other hand, this evidence is more or less fragmentary, and we shall, therefore, confine our findings to the matter of unjust discrimination against interstate commerce. Where we make such a finding and require an increase in the intrastate rates, it is to be understood that we conclude that no positive finding in regard to the revenue outcome of the increase can be justified. Every finding of unjust discrimination will be accompanied by a saving clause, such as was approved by the Supreme Court in the *Wisconsin* case, and we shall require the surcharges to be applied on the intrastate traffic only so long as they are contemporaneously maintained on corresponding interstate traffic.

The report deals with the rates in each state separately and as to each makes a finding as follows: that "in view of the surcharges which have become effective interstate in the freight rates on the classes and commodities here in question, under our findings in the Fifteen Per Cent Case, 1931, supra, respondents'

intrastate rates in the state in question on the same classes and commodities, to which no corresponding surcharges have been added, have resulted and will result in unjust discrimination against interstate commerce," and that this unjust discrimination shall be removed by applying to the present intrastate rates, except those specified, the same surcharges as are and for the future may be contemporaneously maintained by respondents, in accordance with the findings in the fifteen per cent case, on corresponding interstate traffic. In each case it is stated that "these findings are without prejudice to the right of the authorities" of the state in question "or of any other interested party to apply in the proper manner for a modification of our findings, and order, if one is issued, as to any specific intrastate rate on the ground that the latter is not related to interstate rates in such a way as to contravene the provisions of the interstate commerce act."

#### Exceptions in Individual States

The Arkansas Railroad Commission had denied the carriers authority to apply the surcharges on a list of commodities and the federal commission has excepted some of them: Furniture, refined petroleum products, rough lumber, heading bolts, and stove bolts.

The Public Utilities Commission of Idaho had also denied increases on a list of commodities of which the federal commission excepts only ores and concentrates.

The Kentucky Railroad Commission had denied application of the surcharges in their entirety but the federal commission makes no exceptions in this state.

The Louisiana Public Service Commission had excepted a list of commodities and all less-than-carload rates, while the federal commission excepts only sugarcane.

The Board of Railroad Commissioners of Montana had refused to allow the surcharges on any intrastate traffic. The federal commission excepts only ores and concentrates.

The Nebraska State Railroad Commission had denied increases on sand and gravel, stone, and brick, and the Interstate Commerce Commission makes an exception of sand, gravel and crushed stone.

The Corporation Commission of Oklahoma had denied increases on five groups of rates but the Interstate Commerce Commission excepts only refined oils, other gasolines and fuel, road, and petroleum residual oils when such commodities are moving for further manufacture.

The Railroad Commission of Texas declined to authorize the surcharge on less-than-carload traffic, or on the distance rates on casinghead gasoline in tank carloads, but had indicated its willingness to comply with any adverse conclusions which the federal commission might reach without the issue of an order. The federal commission made an exception only of the casinghead gasoline.

The Public Utilities Commission of Utah refused to approve the charges on any intrastate traffic but the federal commission excepts only ores and concentrates.

Commissioners Aitchison and Brainerd dissented; Commissioner Tate dissented in part; Commissioner Lewis concurred but said that in some instances the commission should not have attempted to set aside exceptions as to particular traffic made by state authorities, and Commissioners Farrell and Mahaffie concurred in the result. Commissioner Aitchison said that the commission had gone to some pains to make clear that it in nowise was determining the question of reasonableness under Section 1 of the act and that lacking

such a finding in this or any prior proceeding, "jurisdiction is lacking to make a finding striking down the law of the state." "The action of the state commissions here vacated," he said, "is at least as likely to conserve the revenue of the rail carriers as that prescribed by the majority, and, in such circumstances, the presumption of validity of the state action with which we start can not be said to be overcome."

## Loadmaster With Caterpillar Mounting

THE Loadmaster of the Bucyrus-Erie Company, a full-revolving portable crane mounted on either solid rubber tires, pneumatic tires or crawlers, and designed for a variety of hoisting and hauling work, may now be obtained mounted in combination with a Caterpillar engine, transmission and tracks furnished by the Caterpillar Tractor Company, Peoria, Ill. The engine has cylinders 4 in. by  $5\frac{1}{2}$  in. and the crane has a rated capacity of 4,500 lb.

With the Caterpillar engine, the Loadmaster has three speeds forward of 1.8, 2.6 and 3.6 miles per hour, while in reverse the speed is 2 m.p.h. The average hoisting speed is 47 ft. per min. and the swing speed ranges



Showing the Loadmaster Mounted in Connection with Caterpillar Equipment

from 2.5 to 4 r.p.m. The overall height of the Loadmaster with the boom lowered is 9 ft.  $1\frac{3}{8}$  in., the overall width is 5 ft. 6 in., and the length, exclusive of the boom and operator's seat, is 8 ft. 10 in. The boom is supplied in standard lengths of 10, 12 and 14 ft., while a longer boom can be furnished if desired. Special equipment that is furnished extra includes a bulldozer, a  $\frac{1}{2}$ -cu. yd. single-line clamshell bucket, a 20-in. electric magnet with an independent generating unit, and wire rope slings.

THE RAILWAY RATES TRIBUNAL OF GREAT BRITAIN, following its recent annual review in accordance with the provisions of the Railways Act, 1921, has issued its findings that under present conditions no modification of rates would enable British railways to earn the "standard" revenues to which they are entitled. This is in accordance with the position taken by the railroads through their spokesman, Sir Ralph Wedgwood, chief general manager of the London & North Eastern.



# Norfolk Southern Condenses Supply Operations

Abolishing of purchasing department among road's methods  
of reducing expenses

**T**HE abolishment of the purchasing department and the position of general storekeeper on the Norfolk Southern has, with other changes effected to reduce expenses, made the road's present method of performing supply work of special interest, particularly in view of the fact that the road, although remote from some important sources of supply and having an unusual number of classes of power, is operating on a stock balance of only \$229 per mile, including all unapplied materials and fuel.

The road operates 932 miles of lines, including an electrical division of 42 miles in the vicinity of Norfolk, Va., and 890 miles of steam road operated in two divisions. While the road is small in comparison with many others, it must keep in stock practically every kind of material used by larger roads and a larger variety of items than some, according to L. A. Beck, chief purchasing and mechanical officer. For example, the 105 locomotives owned are of 15 different types, requiring 8 different sizes of tires, and different kinds of rail in service require 14 sizes of track bolts. With one five-mile wooden trestle and 17 miles of miscellaneous trestles to maintain, and much lumber for this work coming from the Pacific coast, the road also finds it necessary to carry a considerable lumber stock.

The supply organization comprises a principal store at Carolina Junction, about four miles from the general office at Norfolk, a storehouse at Raleigh, N. C., and a storehouse at New Bern, where the passenger-car-repair shop is located. Finding considerable duplication of work performed in the purchasing department at Norfolk and in the office of the general storekeeper at Carolina Junction, and, with these offices only four miles apart, it was decided, in November, 1931, to abolish the purchasing department and transfer the work to the general storekeeper; upon the recent death of the general storekeeper, that position was also discontinued. The purchasing and stores department, as presently organized, is in charge of a chief clerk to whom the three storekeepers report, and all purchases are made in the name of the chief purchasing and mechanical officer, a private telephone line connecting the latter's office with the main storehouse, while the outside stores are reached by company telephone.

## Purchasing Methods Changed

The purchasing plan is roughly as follows: Inquiries for bids on routine materials are sent direct from the storehouse. When the inquiries have been answered and assembled and the orders are ready for placement, they are brought to the office of the assistant to the president by the chief clerk, together with envelopes already addressed, and, if approved, are mailed in the afternoon of the same day. The file copies of the orders are returned to the storehouse the following morning, reaching there before the arrival of the office force. The large orders and contracts and all lumber orders are handled directly by the chief purchasing

and mechanical officer, the roadway lumber not passing through the storehouse accounts. All purchase records, except lumber, are kept at the storehouse. One result of the new arrangement is that it has speeded up the placing of orders by about three days, a helpful factor at a time when stocks are being kept at a minimum.

The storekeeper at Carolina Junction has supervision over the other storekeepers, and he, or the chief clerk to whom he reports, is required to make weekly visits to the other storehouses and confer with the mechanical officers at these points. Visits are also made by the chief purchasing and mechanical officer to the principal store and shops at Carolina Junction three times a week and to outlying points about once every two weeks. The size of the railroad affords a personal contact with officers and employees that is not possible on a larger system, and the endeavor is made to handle all matters, whenever possible, by personal conference rather than by correspondence. Interdepartmental correspondence between the mechanical and stores departments is practically nil.

## Economical Lumber Practices

The roadway lumber is unloaded at two principal lumber yards. Lumber for the Northern Division is stored at Mackeys, N. C., where the five-mile trestle is located, and that for the Western Division is kept near the storehouse at Raleigh. While the storekeeper at that point is responsible for the lumber, it is not carried in his store accounts, but in a special account maintained by the roadway department. A close check of receipts and disbursements of lumber is maintained in the office of the chief purchasing and mechanical officer, in order to keep a sufficient amount of lumber on hand to care for regular needs and emergencies and yet hold the stock down to a reasonable minimum. The budget calls for the issuance of about 2,500,000 ft. b.m. of roadway lumber this year, which is protected at present by a stock of about 650,000 ft. b.m., or a little more than a three months' supply. All of this timber, except 8-in. by 16-in. stringers, 26 ft. and longer, is purchased along the railroad.

The cross ties are also purchased along the line, approximately 85 per cent being loaded into box cars by the seller. This is an ideal arrangement for loading and distribution, no work trains being used. The tie inspectors are furnished with a shopping list and, when ties are being loaded, they ship the cars direct to the places assigned by the roadway department. This avoids cross-haul of ties and gives an even distribution. The ties are usually distributed by local freight train, although at present, when locals are scarce, they are being shipped to various stations on each section and distributed by section forces, using motor and push cars. The principal lumber storage for the mechanical department is at Norfolk, where all lumber intended for that department and all small-size material are kept under cover.

The distribution of material for section forces and certain agencies is made by supply cars operating on regular freight trains. These supplies are now shipped every 60 days instead of 30 days. Previously, stationery was also shipped in the supply cars but it is now distributed by passenger train under a label marked "valuable". The supply cars are manned by an assistant storekeeper and one helper and include a combination bunk and supply car, in which are carried any stationery not shipped by passenger train; also electric-light bulbs, glassware, shovels, etc. The equipment also includes an oil car, two or more cars of gasoline and kerosene in drums and a gondola car carrying spikes and bolts, bridge washers, etc. The latter car is equipped with a one-ton hoist on a 20-ft. boom, which has proved to be an excellent accessory. Each section foreman has one or more steel barrels for all small scrap, such as old spikes, broken angle bars, etc., and, when the supply cars stop to distribute supplies, these barrels are emptied into a scrap car, the boom loading an adjacent car as well as the car on which it is built. Until the price of scrap declined to the point where returns were practically nothing because of the distance from the mills, this car loaded more than enough small, miscellaneous scrap each month to pay the wages of the supply men. The crane car is also used to pick up wheels at isolated points and, when not with the supply cars, it is used as a wheel car.

Until the shop forces were reduced considerably, the storehouse maintained a delivery system to the machine shop and roundhouse, but this has been discontinued. The car department maintains its own delivery system. It obtains all materials from the storehouse wholesale at the beginning of the month and keeps this material in a sub-store from which it is issued in small quantities as needed. This sub-store, in which all car-department tools are also kept, eliminates considerable clerical work in the storehouse. Material needed for AFE work is drawn from the large storehouse.

#### Stock-Book and Accounting Methods

Store books maintained at each of the three stores are made up in 21 sections and list all materials and supplies in current use, including stationery, which occupies one section of the books. They are edited, written and checked in the principal store and cover a period of one year. Corrections and changes in specifications are made at the principal store and other storekeepers are informed and instructed to correct their records.

All purchase requisitions and the purchase orders for supplies originate in the principal store and are made at the same time by the use of carbon paper. The original is the purchasing order, which is sent to the manufacturer or shipper; the duplicate, or purchase requisition, is the purchasing file copy; and the triplicate is the storekeeper's file copy on which are placed the record of receipt of the material and the invoice and freight charges. This eliminates paper work and avoids duplicate checking.

Requisitions on the several stores, made by the various departments, are carried in series, numbered consecutively through the year, beginning with No. 1. This plan enables the department to keep an accurate record of materials and supplies issued and a record that is readily accessible when information for any period is required. The daily issues to shops are made on shop tickets which are not numbered, but are arranged according to the date of issue, the material classification and account number orders during each monthly period, enabling them to be easily located when required.

All accounting for receipts and disbursements of

materials, supplies and stationery carried in stock is handled in the store department. The outside stores report to the principal store, the latter preparing a statement of all charges to the various accounts during the current month and forwarding it to the general auditor not later than the seventh day of the next month. From this, the materials and supplies account is credited in the general ledger. Invoices are checked and verified in the store department as to prices and extensions and the correctness of the materials ordered and are then passed to be charged to the materials and supplies account in the general ledger. Freight, express charges, etc., are handled in like manner. The requisitions are priced and charged to the accounts affected in the storekeeper's record on the day following the issues. Statements are furnished daily to the mechanical and maintenance-of-way departments, showing the charges against their accounts. On the Norfolk Southern, the handling of the accounting directly through the store department is believed to eliminate difficulties that could not otherwise be avoided. All questions are handled, as they arise, by personal contact rather than by correspondence.

The store department also prepares a monthly balance sheet showing, by classes, the material on hand on the first day of the month, the receipts, disbursements and the balance on hand on the last day of the month. The stock is carried in 21 classes, corresponding with the sectional arrangement of the stock books and the same arrangement of the material in the storehouses. This system is preferred by the road to the 50-class system recommended by the Purchases and Stores Division, A.R.A.

An accurate inventory of all materials on hand in all stores is taken in the stock books every 30 days for the purpose of ordering requirements for the ensuing period. The storekeepers, by having before them materials actually on hand and the past orders and purchases, and by keeping in close touch with the various departments as to any unusual requirements expected, are thus provided with adequate means of placing orders economically to cover their future needs.

For the purpose of adjusting accounts, the actual physical inventory showing the money value is taken each year. This inventory is taken and prepared by the store department, which is familiar with the materials, their locations, prices, etc. This plan has worked to advantage, judging from the fact that the actual inventory balance during the past five years has exceeded the ledger balance at the end of the year by an average of 0.64 per cent for that period.

#### Reductions Made in Stocks

In the interests of economy, the road has reduced a number of stationery forms, either by consolidation or arbitrary cancellation of forms, and has been scrutinizing every detail of the purchases and stores operations with a view to lessening the amount of work. Many reports of questionable value have been eliminated. The value of material in charge of storehouses for the steam-operated lines was \$105,000 on July 31, 1932, as compared with \$122,867 on December 31, 1931, and \$165,402 on December 31, 1930, and the value of all steam-line materials on hand, including lumber, stationery, fuel, cross ties and rail was \$204,000 on July 31, 1932, which represents an average investment for the 891 miles of steam line of only \$229 per mile. This has been accomplished, according to Mr. Beck, by the unusually close co-operation secured between the various departments and the close attention paid to the details of the supply work.



# Odds and Ends . . .

## Maybe It Was a Home Run

The Illinois Central magazine for October calls attention to a rare coincidence in train operation out of Centralia, Ill. Extra 1814 was ordered out of that terminal for Champaign recently with Conductor Pitcher and Engineman Catcher. The query is, does this circumstance make the train a "high ball" or just "one out."

## Record Coal Shipment Into Kansas City

The largest single movement of semi-anthracite coal from the Arkansas fields ever to arrive in Kansas City, Mo., pulled into that terminal on August 31 in a special train over the St. Louis-San Francisco. The coal in the train of 70 cars was valued at \$28,000. It was mined in the Midland, Ark., fields of the Southern Coal Company and was consigned to various retail coal dealers in Kansas City.

## "Caterpillaring" Through Canada

Jean Allouche of Paris, a member of the French exploration party that made a trip by caterpillar-tread automobile across Africa and Central Asia, has been conferring with the engineering department of the Canadian National on the possibilities of making such a trip through the far north of Canada, within the Arctic Circle. If it is believed to be feasible, it is altogether likely that the same group of explorers will undertake the trip either next summer or in 1934.

## Politicians Beware

The recent action of several hundred Union Pacific employees may strike terror into the hearts of politicians, what with the presidential election at hand. This group signed a petition and placed it before Governor Clark of Wyoming, asking the removal of F. Chatterton, former governor of the state and now chairman of the Board of Equalization and the Public Service Commission of that state, charging that he failed to enforce the law when a railroad man lost an arm because a truck collided with his automobile.

## Norfolk 250 Years Old

Norfolk, Va., tidewater terminus of the Norfolk & Western, the Chesapeake & Ohio and other roads, celebrated its 250th birthday on August 16. On August 16, 1682, two men designated by the Virginia general assembly, Captain William Robinson and Lieutenant Colonel Anthony Lawson, purchased from Nicholas Wise, a carpenter, 50 acres of land for the establishment of a town where the present city is now located, paying Mr. Wise with 10,000 lb. of tobacco. From the trifling value the land represented then, there has grown property value amounting to nearly \$150,000,000, while the little band of about 100 citizens who first settled on the land has grown to a population of more than 130,000 persons.

## Ticket Comes Home to Roost

An unused portion of a ticket sold on July 4, 1881, by the Kentucky Central, now part of the Louisville & Nashville, recently reappeared after having been missing for more than half a century. The story back of this incident is that the ticket was purchased by J. M. Thomasson, then living in Petersburg, Ky., who was making a trip from Covington, Ky., to Butler and return. The afternoon train for Butler that day carried several extra coaches of picnickers bound for Bethel Grove. The train had orders to take the siding at Spring Lake to clear the main line for the Butler accommodation train. The order was not obeyed and on a short curve at Pye near Spring Lake, the two trains met in a head-on collision. A number of people were killed and injured, and in the ensuing excitement, the conductor failed to

take up Mr. Thomasson's ticket. He still has it after all these years.

Incidentally, according to the passenger accounting department of the railway, about one per cent of all tickets sold fail to come back to the accounting office. Many of them straggle in days, weeks or months late, while others never show up.

## False Alarm

Employees along the lines of the Missouri-Kansas-Texas had quite a shock—pleasant or otherwise—one day recently when they saw a carload of brewing machinery in the consist of "The Bullet," the Katy's fast freight to the Southwest. Everyone seemed to consider the car to be evidence that legal restrictions on beer had been or were about to be lifted. As it turned out, however, the brewing machinery was not on its way to a United States destination but was enroute to Bogota, Colombia, where they have never even heard of Mr. Volstead.

## Exceptional Shipments

Among the oddest rail shipments on record are the movement of a complete two-story frame home, and that of a train of 20 cars of oyster seed, embryo oysters, moving from the Atlantic coast to the Pacific coast to replenish oyster beds. However, every day the railroads are called upon to handle exceptional shipments which are of unusual interest. One of these instances occurred during the war, when an eastern railroad was called upon to transport 18 seaplanes on 36 cars from the Curtiss plant at Buffalo, N. Y., to New York for export. The height of the crates containing the planes exceeded the clearance on all of the eastern railroads except one, and on this one they failed to clear one highway bridge by three inches. To overcome this obstacle, the tracks were lowered that amount and then restored after the train had passed.

Another unusual shipment was a load of 8-in. by 16-in. timber stringers, 100 ft. long, shipped from the Pacific coast to New York. The load was carried on three flat cars and, because of the weight and difficulty in keeping the timbers on the cars, required three months for transportation.

Another unusual type of shipment that has developed more recently is that of huge evaporator and bubble towers and soaking drums used in the oil refining industry which are mentioned because of their enormous weight, length, height and width. The evaporator tower in the accompanying illustration was shipped recently from the plant of the M. W. Kellogg Company at Jersey City, N. J., on two flat cars routed over the Erie and the Chicago & North Western to Casper, Wyo., for the Standard Oil Company's refining unit at that point. This tower is 57 ft. 6 in. long, 17 ft. high (from the ground), 12 ft. 8 in. wide and weighs 322,000 lb. While this is a record as concerns weight, some of these towers are as long as 74 ft. 8 in.



An Evaporator Tower Weighing 322,000 Lbs.

# NEWS

## Changes in Regulation Advocated by Rayburn

Texas congressman cites revolutionary changes in the transportation situation

Revision of federal laws dealing with transportation regulation because of the revolutionary changes in the transportation situation and the increasing competition with the railways of other forms of transportation was urged by Representative Sam Rayburn, of Texas, chairman of the House committee on interstate and foreign commerce, in a radio address from New York on October 8.

"In recognition of this revolutionary development," he said "we shall have to deal with the railroads in the future not as altogether monopolistic but only as partially so. We must recognize the new and competing forms of transportation and subject them likewise insofar as necessary to Congressional regulation as we were forced to regulate the railroads when they became important in interstate commerce.

"The power of government should never be used to put a legitimate competitor out of business. But it is the duty of government to place under similar reasonable regulation businesses that are competitive and where the public interest requires regulation. The government should not lend its power to suppress a new and developing labor-saving device merely to protect the profits of those engaged in using an older form, but the government, should not through its inaction or indifference, ignore the safety of person and property and leave without remedy the abuses and discrimination which may be as prolific among those engaged in the new forms of transport as formerly they were among the railroads. The people of this country are entitled to the most economical and convenient method of transporting their goods. The new forms of transport must be given a fair chance, but they should not be unduly subsidized at public expense. The railroads must be protected from unfair discrimination without being given an undue advantage over their competitors. On June 21 I introduced a bill to regulate buses and trucks in interstate commerce. I expect to ask for hearings on that bill at the short session, and I am hopeful that Congress may act upon it.

"I can see nothing at present which indicates that the railroads will become

obsolete. In fact, the new and competing forms of transport appear to me to be largely supplementary to our railroads. Only in minor cases will they apparently be able to supplant the railroads. The highways, pipe lines, new boat lines and airways will make unnecessary the construction of much additional trackage which otherwise would have been built. Apparently, most of existing trackage, particularly of the main stems, will be needed indefinitely. \* \* \*

"The present plight of the railroads is due only in part to the appearance of the new and competing forms of transport. The greatest immediate difficulty has been the present financial depression. With more wisdom in national affairs, the railroads will find themselves with increasing business.

"It is not sufficient for the government merely to lend money to the railroads. The taxpayers in this country cannot be expected indefinitely to carry the deficits of these corporations. Yet to permit the railroads to go into receiverships will affect the insurance companies and the savings banks to such an extent as to bring to our country disaster as great as that of losing a major war. The mere lending of money by the government is only treating the symptoms. Something more fundamental must be done.

"First, we must win back our foreign markets for agricultural products; and readjust our production and distribution on a basis which will enable our manufacturers and farmers to prosper together. Second, in regulating the means of interstate commerce we must recognize that the railroads have ceased to have a monopoly in transportation.

"Our legislation with reference to transportation must be constructive. We rely upon private initiative to develop the most economical means of transporting our goods. It is the business of government to see that those with initiative and leadership are protected in the enjoyment of the fruits of their services to humanity and that the public is protected from the abuses which are incident to the imperfections of human nature."

### Loans to Railroads

The Reconstruction Finance Corporation in August loaned \$12,798,583 to railroads and railroad receivers, according to its monthly report made public by the clerk of the House of Representatives.

## N. Y. C. of C. Opposes St. Lawrence Project

State body finds plan economically unsound, commercially unwise, politically inadvisable

Declaring it to be an unavoidable conclusion that "the St. Lawrence River project does not give sufficient promise of realization of the expectations of its advocates to justify such an extraordinary expenditure of public moneys," the Chamber of Commerce of the State of New York has maintained its record of opposition to the creation of a deep-sea channel between the Great Lakes and the Atlantic Ocean. The Chamber's latest action on this subject was in the form of a report, prepared jointly by the Committees on Internal Trade and Improvements and on Harbors and Shipping, which was adopted exactly as presented by Elon H. Hooker at a meeting of the Chamber held in New York City on October 6.

This report reviews briefly the Chamber's 12-year record of constant opposition to the St. Lawrence waterway; states that "during the last decade a number of developments have taken place which have further decreased the prospects of its becoming a valuable utility"; and then launches into a careful and detailed analysis (abstracted below) of the various factors to be considered in connection with the proposed seaway, which analysis leads the committees and the Chamber to the following conclusion:

"The many objections to the government engaging in this tremendous speculation seem conclusively to require that this Chamber should continue to oppose it. Experts have shown that it might be possible for a grain exporter to save 5 cents per bushel on European shipments over a canalized St. Lawrence, assuming that the operator of vessels paid no tolls or other charges to liquidate the cost of the right of way he was using. But when the cost of operating the canal and the amortization of the debt for its construction are met, it has been estimated that the taxpayer would pay 16 cents for each bushel of grain transported to the seaboard.

"The power production contemplated cannot be counted upon to liquidate the canal outlay. The value of hydroelectric power has in the last 10 years heavily depreciated. Owing to remarkable developments in efficiency steam power electric plants are able to compete successfully with hydroelectric plants. So there is not

(Continued on page 553)



## Coolidge Committee Holds First Meeting

Expect to report within three months—Dr. H. G. Moulton named chief investigator

The investigating committee headed by Ex-President Calvin Coolidge, will be known as the National Transportation Committee and will endeavor to make a report within three months, Mr. Coolidge revealed following the organization meeting in New York on October 7. Dr. Harold G. Moulton, president of the Brookings Institution, Washington, D. C., has been employed as chief investigator and the committee has engaged quarters in the Empire State building, New York. Mr. Coolidge's colleagues on the committee are: Bernard M. Baruch, vice-chairman; Alfred E. Smith; Alexander Legge; and Clark Howell.

Mr. Coolidge outlined the plans of the committee in the following statement:

"This committee met this morning for the first time and adopted the name of National Transportation Committee. Mr. Bernard M. Baruch is vice-chairman and I shall be chairman. We have engaged quarters at Room 3001 in this building and we have appointed Dr. Harold G. Moulton, president of the Brookings Institute of Washington, to be our chief investigator. He will make recommendations to the committee as to their selection of other experts.

"Of course, the committee has no preconceived ideas of what will be the recommendations they will make. Their effort will be directed toward making a general investigation of all forms of transportation in accordance with the suggestions that were set out in the letter of invitation which was sent to each member of the committee and which has already been published. While, primarily, I suppose, we are interested in railroads, any consideration of this great problem would involve all allied methods of transportation—by water and air and motor.

"While, of course, we cannot tell exactly how long our investigation will last, it will be our purpose to finish it in about three months. When the report is ready, it will be given to those who asked us to serve on the committee.

"We do not expect to have any stated times of meeting. The committee will meet whenever our chief investigator brings together facts to be submitted to our consideration or as various topics come up for discussion. I think that about covers the story of this morning.

"There will probably be persons who may wish to be heard by us, and in that case we will avail ourselves of their testimony. However, because of the limited time, we cannot hear every one orally, and it might be fully as well if they submitted briefs, in which form their ideas would always be available."

Replying to questions, Mr. Coolidge said that Dr. Moulton had estimated the cost of the investigation at \$40,000

or more and that a chief item of expense would be printing.

"We will print all evidence that comes before us," Mr. Coolidge said in this connection. "We wish to put in all evidence, whether or not it is in harmony with the findings of the committee."

## Lee Analyzes Problem of Motor Competition

Discusses present problems, outlines needed legislation, in address to Civil Engineers

"Complete confidence in the capability of railway managers to take continued advantage of every available opportunity for healthy improvements in service, to the end that the various forms of transportation will find their proper sphere in the general scheme of distribution" was expressed by Elisha Lee, vice-president of the Pennsylvania, in an address analyzing the problem of rail-highway competition, delivered by him at the fall meeting of the American Society of Civil Engineers at Atlantic City, N. J., on October 5.

The railroads, Mr. Lee said, in opening his talk, with their advantages of efficiency, low cost and dependability, are as essential to the continued life of the country as they were to its growth and development. Apprehension concerning their future, as indicated by the low prices quoted for their securities early this summer, was due in part to the business depression, and in part to the "focusing of so much attention upon the rapid growth in competition against them on highways and waterways." This situation, he continued, requires urgent attention, but the problem should be appraised soberly, for "the disease is perfectly curable, and the remedy not unduly difficult to find or apply."

Mr. Lee then went on to show that the problem of highway competition is not peculiar to the United States, but is world-wide; other countries are ahead of this one in establishing fair relationships between rail and highway transport, and certain countries, where the railroads are government-owned, have enacted prohibitive measures against highway carriers, going much farther than anything suggested here. He paid particular attention to the Salter report, recently submitted by a committee of experts in Great Britain, recommending that all costs of highway construction and maintenance be borne entirely by the users, and that a fair share of such costs for a 10-ton truck, for example, would be a license fee of \$1,100 a year, plus a gasoline tax of 13½ cents per American gallon. The speaker indicated at this point that creation of a similar committee of rail and highway experts, to consider the problem from the American viewpoint, was already under way.

A detailed abstract of the rest of Mr. Lee's address, reviewing the problem of

(Continued on page 552)

## Bar Association Urges Revision of Regulation

Two committees recommend that unfairness in present laws be eliminated

The "unfairness as between the regulation of railroads and the lack of regulation of interstate commerce by motor buses and motor trucks should be eliminated," says a report submitted to the section of public utility law of the American Bar Association at its annual meeting in Washington on October 10 by the committee on "The Boundaries Between State and Federal Regulatory Powers Over Public Services." "As a matter of sound legal policy," the committee said, "it seems clear to this committee that the question of the proper regulation of the transportation of passengers and freight by railroads and motor buses should be re-examined by Congress. . . . It may be that the regulation of the railroads by the Interstate Commerce Commission is too strict and that sufficient initiative for experimentation is not left to the railroad managers.

"However this may be, it seems obvious that the regulation of the railroads and of motor buses and trucks should be coordinated so far as possible and that neither the railroad industry nor the motor industry should receive a competitive advantage over the other as a result of unequal regulation. It would seem logical that the power of regulation over interstate commerce by motor bus and motor truck should be vested in the Interstate Commerce Commission with power to confer or hold joint hearings with representatives of the state regulatory bodies and otherwise to avail itself of the cooperation, service, records and facilities of the individual states.

"This committee, however, is of the opinion that the problem of recommending the proper legislation on this matter is not one within the strict scope of the subject allotted to this committee. The committee feels that the subject is of such major importance that we recommend to the council and section that a committee of the section be authorized to consider and report on the proper method and agency for the regulation of such motor transportation and further to report on the federal legislation now proposed for this purpose and to take such action as may be approved by the executive committee of the association in regard thereto, or that the council and section recommend to the association the appointment of such a committee."

The committee expressed the opinion that the courts will sustain the legal power of the federal government adequately to regulate the interstate transportation by common carrier and contract buses and trucks in competition with the federally regulated railroads. The vital problem seems to the committee to be one of methods, involving primarily economic and political questions rather than legal.

The report of the standing committee

on "Commerce," also expressed the opinion that Congress should pass an act regulating both the transportation of passengers and freight by motor vehicles and give to the Interstate Commerce Commission jurisdiction over the fixing of rates, fares, and charges, through routes, and divisions.

The committee on "The Applicability to Public Utilities, Especially in the Field of Transportation, of Anti-Trust Laws and the Fundamental Principles Underlying Same in the Light of Development of Regulatory Control and of New Economic Conditions," of which R. V. Fletcher, vice-president and general counsel of the Illinois Central, was chairman, submitted a report dealing with the conflicting methods and theories of regulation of railroad and transportation agencies as evidenced on the one hand by the Anti-trust laws and on the other by the interstate commerce act. The conclusions reached, which are stated in detail in the report, were summarized as follows:

1. The enforcement upon the railroads of competition through the anti-trust laws is inconsistent with their being regulated as though they were natural monopolies; their regulation by a concurrent application of the two methods should not be continued.

2. While the railroad business is a highly competitive business and made more so by the development of automobile, pipe line, and water transportation, it is not practicable to abandon the regulation of the railroads under public utility concepts and to leave to the forces of competition the securing of an equitable adjustment of the mutual rights which are involved.

3. Carriers subject to regulation by the Interstate Commerce Commission should be relieved from the inhibitions of the anti-trust laws, since the rights of all concerned can be fully protected through regulation by the commission under the principles of public utility law.

4. The regulation should be changed in these respects:

- a. The pooling of traffic and earnings under regulation of the commission should be encouraged.

- b. The carriers should be permitted to make legitimate traffic agreements in regulation of competitive conditions.

- c. Consolidations and mergers should be permitted without the present reservation "that competition shall be preserved as fully as possible."

- d. The regulation of the entire transportation industry should be based upon the principle that all competitors shall have equal regulatory burdens under a system properly reflecting the fact that they are competitive and not monopolistic enterprises.

#### **N. I. T. League Annual Meeting Postponed**

The National Industrial Traffic League, by a mail vote of 293 to 67, has postponed until a later date its annual meeting scheduled to be held at New York in November. The meeting of the Executive committee will be held in that city on November 15-16. The probability

of important legislation being introduced when Congress reconvenes may necessitate the calling of a meeting of the members to consider such legislation, and in view of that possibility it was deemed advisable to postpone the November meeting with a view to eliminating one meeting and the attendant expense.

#### **Pennsylvania Public Service Commission**

C. Jay Goodnough has been appointed member of the Pennsylvania State Public Service Commission, to succeed E. L. Collins.

#### **McCardle to Retire as Chairman of Indiana Commission**

John W. McCardle, chairman of the Indiana Public Service Commission, will retire at the expiration of his term of office on May 1, 1933, according to his own announcement. At the time of his retirement, Mr. McCardle will have completed four terms, totaling 16 years, as chairman of the commission.

#### **Wage Statistics for July**

Class I railways reported to the Interstate Commerce Commission a total of 1,021,937 employees as of the middle of the month of July. The total compensation was \$120,559,627. Compared with returns for the corresponding month of last year, the summary for July shows a decrease of 287,856, or 21.98 per cent, in the number of employees. The total compensation shows a decrease of \$63,304,448, or 34.43 per cent.

#### **Fall Meeting of A. S. C. E. Hears Railway Subjects Discussed**

The fall meeting of the American Society of Civil Engineers was held on October 5 to 8 at Atlantic City, N. J., with approximately 600 members and guests in attendance. The principal items of interest to railway men on the program were a review of the extensive Philadelphia improvement work of the Pennsylvania, presented at the opening session by Robert Farnham, chief engineer of the Pennsylvania's Philadelphia improvement work, and an address by Elisha Lee, vice-president of the Pennsylvania, at the banquet held on Wednesday night. Mr. Lee's address, which dealt largely with the economic and social problems which confront the railways, is presented in abstract in another column.

#### **Employees' Leagues Active**

Railroad employees and citizens of New Hampshire will gather at Concord on October 18 at a meeting at which prominent speakers will discuss the railroad problem and its bearing on the fortunes of railway employees and other citizens.

The October 21 meeting of the New York Railroad Club, (8 p. m., 29 West Thirty-ninth street, New York City) will be devoted to a discussion of subsidized competition with the railways and methods of combatting it which have met with success in other states.

Employees at St. Louis, Mo., have organized to foster legislation to place all forms of transport on an equal basis of taxation and regulation.

Employees at Tacoma, Wash., have formed the Washington Railway Employees & Citizens League.

Twenty-two local "ship-by-rail" clubs have been formed in Wisconsin and it is expected that a state-wide association will be organized within a month. Employees in the Chicago district have set up a temporary committee to spread organization throughout the state.

#### **Oppressive Whistling**

"Unbearable" is the characterization of the locomotive whistle nuisance at Willow street crossing of the Boston & Maine in Reading, Massachusetts, as voiced by complainants at a recent hearing before the Public Utility commissioners of the state. One witness declared that his baby stands up in his crib and shrieks with terror when awakened in the middle of the night by the whistles. In the details of the complaint this case is not greatly different from innumerable other cases; but in the spirit of the parties at the hearing it was somewhat unusual. The representative of the railroad company assured the citizens that he felt the force of their complaint—he was a resident of Reading himself—and he proposed a simple remedy: that the town put up a sign requiring motorists to stop before crossing the tracks, and then see that the police enforced the rule! Then the whistle signals could be omitted.

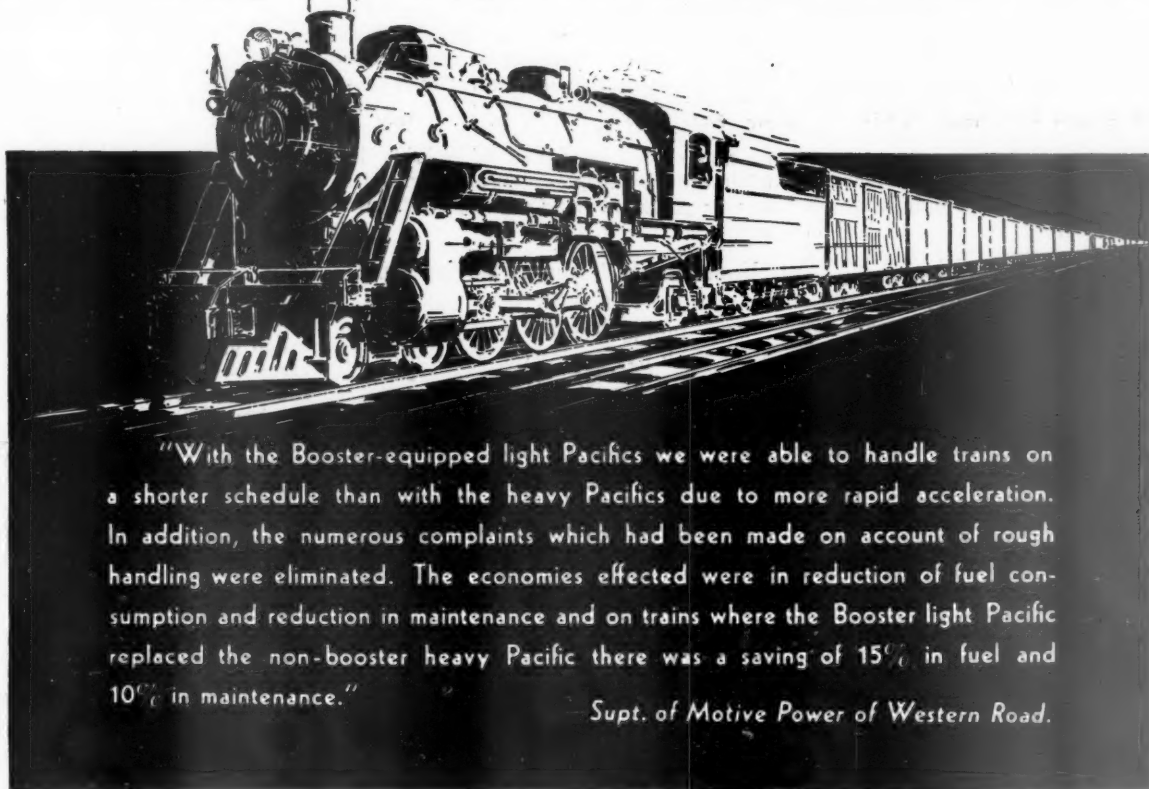
#### **Inland Association Adopts Constitution**

The National Inland Transportation Protective Association has been organized by citizens of Centralia, Ill., to oppose the use of public moneys for developing inland waterway transportation and to bring about a prompt disposition of the Inland Waterways Corporation and Federal Barge Lines to the best advantage of the public. The constitution which it has adopted provides for the extension of the movement to other parts of the country. The objects of the organization, according to the constitution, are to bring about the discontinuance of the spending of public money for the development, extension and maintenance of inland waterways for transportation purposes; to secure the discontinuance of governmental ownership and operation of waterway transportation systems and to secure the application of the principles of governmental regulation, in an equitable manner, toward all modes of public transportation. The association is to consist of units to be known and designated as divisions, comprising the original unit at Centralia, Ill., together with such other units as may hereafter be organized. A local division may be organized in any city or community.

The officers of the association are as follows: President, John W. Stedelin, president of the Marion County Coal Company; first vice-president, Frank T. Egan, Illinois Power & Light Corporation; second vice-president, Walter



# LOWER MAINTENANCE AND LESS FUEL ♦ ♦ result from applying the BOOSTER



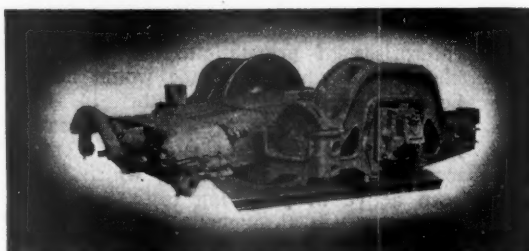
"With the Booster-equipped light Pacifics we were able to handle trains on a shorter schedule than with the heavy Pacifics due to more rapid acceleration. In addition, the numerous complaints which had been made on account of rough handling were eliminated. The economies effected were in reduction of fuel consumption and reduction in maintenance and on trains where the Booster light Pacific replaced the non-booster heavy Pacific there was a saving of 15% in fuel and 10% in maintenance."

*Supt. of Motive Power of Western Road.*

Intensive power production calls for the incorporation of The Locomotive Booster in the design of every locomotive—large and small—old and new. In no other way can you get the greatest work out of every pound of metal. « Unless a locomotive has a Booster, it must be built heavier in order to get the required tractive power to start the load it can haul at speed. « Once underway, such a locomotive carries

excess weight. It is not loaded to capacity. It has a pair of drivers which could be dispensed with, as far as hauling ability is concerned. « Contrast this with a Booster-equipped engine loaded according to capacity at speed. The Booster is cut in only when

needed. It uses idle weight and spare steam for starting, accelerating and to maintain speed on grades. « Greater tonnage is hauled, resulting in lower operating costs.



THE LOCOMOTIVE BOOSTER

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Herron, Herron Brothers Company; treasurer, A. J. Johnson, cashier, City National Bank of Centralia; secretary, L. H. Jonas, attorney-at-law. The directors include F. F. Noleman, president of the Old National Bank; Charles Wham, attorney-at-law; John Langenfeld, West Side Motor Company; G. L. Rigg, Prudential Insurance Company; E. B. Michael, J. C. Penney Company; W. E. Osterholtz, Union House Furnishing Company; John McNeil, mayor; L. H. Vorwerk, Barnes Shoe Company; and W. C. Vass, Langenfeld Hotel.

### The Deadly Truck

More people are being killed and injured by buses and trucks than in accidents at railroad grade crossings. This is the theme of the last monthly advertisement of the Central of Georgia, printed in local newspapers in Georgia and Alabama. It is estimated that in two months, June and July, the number of persons killed by trucks and buses on the highways of the country was more than double the number killed in railroad grade crossing accidents. The following figures are quoted: In collisions between buses and trucks with each other and with other motor vehicles, in the 17 Mississippi Valley states, 223 killed, 1410 injured; in the same period, in 48 states, number killed in railroad grade crossing accidents 258, injured 798; estimated number killed in the two months throughout the country by trucks and buses, 600; injured more than 4,000. The heavy high-speed commercial motor vehicle, says the railroad's statement is a menace to life and property; its size, weight, speed and operation should be regulated for the safety of the public.

### Employees Organize in New England

Plans have been perfected for the organization of a Railroad Employees and Taxpayers Association of Connecticut, with the announced purpose of backing legislation which will bring about an equitable situation so far as the various competing forms of transportation are concerned.

At an organization meeting held in New Haven on October 7, A. T. Pierson, was elected temporary chairman, and E. C. Brooks of Wallingford, was appointed temporary secretary.

It is contemplated that units of the new association will be formed in each of the large cities and towns, while the smaller communities will be covered through district organizations, so that eventually every part of the state will be represented with a unit. Similar organizations will be formed in Massachusetts and Rhode Island. Mass meetings will be held which will be open to all interested.

Membership in the organization will be open to all who are interested in seeing to it that the railroads receive fair treatment. It is expected that many other than railroad employees will seek membership because of their interest as taxpayers, as stock and bondholders in the railroads, and as depositors in savings banks and holders of insurance policies, both of which types of organization are large holders of railroad securities.

Discussing the question of spreading employment, J. M. Davis, president of the Delaware, Lackawanna & Western, directed attention to the fact that the amount paid for taxes in one year by his company would furnish half-time employment for approximately 8,000 persons for the same period of time.

"I should like to emphasize," said Mr. Pierson in explaining the purpose of the new organization, "that we have no axe out for anyone. There is a place in our whole transportation scheme for each particular form of transportation. But to determine that proper place it is absolutely necessary that all forms of subsidy be taken out of transportation and each kind of transportation stand entirely on its own feet."

### Unprofitable Passenger Service Must Be Kept Up

The Public Service Commission of New York has denied the application of the New York, New Haven & Hartford for permission to discontinue the operation of four passenger trains in New York state; two between Pine Plains and Beacon, 44 miles, and two between Copake and Poughkeepsie, 40 miles. In each case these trains represent the whole of the passenger service over the sections named, one each way each weekday. A similar application was denied in 1930 and again in 1931. On the 44-mile run the deficit in operation in 1929 was \$15,022; in 1930, \$12,241 and in 1931, \$9,362. On the 40-mile run the loss in 1929 was \$17,038, in 1930 it was \$12,093 and last year it was \$10,632.

There is no bus service in this territory, and the main point of the commissioners' decision is that cessation of this train service would leave these parts of Dutchess and Columbia counties without public transportation. There was no evidence before the commission that any bus service would be provided in this territory.

### Further Hearings on Government Competition With Business

Representative Joseph B. Shannon, of Missouri, chairman of the special committee of the House of Representatives appointed to investigate the federal government competition with the business enterprises of private citizens, has announced that his committee would hold hearings in Chicago, November 14, 15 and 16, at the Palmer House. Chairman Shannon said that the Chamber of Commerce of the United States, which has been active in procuring testimony for the committee throughout its hearings, would at the Chicago hearings present a resumé of the findings and recommendations of its own special committee which has conducted a comprehensive examination of the extent in which the government is in competition with private business. Many trade organizations also will be heard at the Chicago session. The committee has held earlier hearings in

Washington, Kansas City, St. Louis, Lawton, Okla., Memphis, New Orleans, New York City and South Bend, Ind.

The committee thus far has disclosed that the national government is in direct competition with more than 90 lines of private business enterprise. The Chicago hearings, Chairman Shannon said, would reveal more cases of such competition. The committee is to report its findings and recommendations to the December session of Congress.

### Alaska Railroad Deficit Reduced

The loss suffered by the federal government in the operation of the Alaska Railroad during the past fiscal year was \$177,283, or 30 per cent less than ever before in the history of the road, according to a report received by Secretary Wilbur of the Interior Department from Colonel O. F. Ohlson, general manager. The operation deficit for the year was \$412,466, as contrasted with \$589,750 for the fiscal year ending June 30, 1931. It was less than one-half the deficit which the government has been called upon to make up in any year previous to 1931. It is also predicted that the operating deficit for next year will be about \$300,000.

"The economies of Col. Ohlson, a practical railway man of long experience, are largely responsible for this satisfactory showing," according to a press statement issued by the department.

"This saving has been possible despite the fact that travel by aeroplane and motor transport has cut into the passenger traffic between Seward and Fairbanks. These inroads have been compensated for materially by an increase in freight and passenger rates made in accordance with the recommendations of the special Senatorial committee which visited the territory two years ago."

### Seatrail Lines Authorized to Operate for Six Months

The United States Shipping Board has authorized Seatrain Lines, Inc., to operate for six months from October 6 between New York and New Orleans via Havana, in its service which was inaugurated on that date after many protests by railway and steamship interests to both the Shipping Board and the Interstate Commerce Commission. In the meantime the board will observe the effect of the operations on the traffic of other carriers and no payment on the ocean mail contract which had been awarded the company will be made during the six months period under an agreement reached between the board and the Postmaster General. This authorization was issued following an all-day hearing before the board on October 5, the day before that set for the first sailing, on an application of the company for an approval of its operation and for the transportation in its two new vessels of other cargo than that of Cuban origin or Cuban final destination at freight rates not lower than those collected by competing water carriers on the same commodities for the same service, "on the



condition that Seatrain Lines, Inc., shall at all times give preferential consideration and service to commerce between the United States and Cuba, and that under no circumstances shall any cargo of Cuban origin or destination be excluded by or deferred to such other cargo." The hearing was called after question had been raised as to the propriety of the proposed operation under the loan contract by which the company had obtained a loan from the Shipping Board construction loan fund which seemed to limit the operation to foreign commerce.

The hearing before the board attracted a large attendance of railroad, steamship, and port representatives, who had previously failed to induce the Interstate Commerce Commission to suspend the Seatrain tariffs, and who protested against the new service on the ground that it would bring a government-subsidized operation into the coastwise trade in competition with railway and steamship lines dependent solely upon their revenues. Testimony of this nature was given by representatives of the eastern trunk lines, the southern lines, the Illinois Central, the Southern Pacific Lines, the Ocean Steamship Company, the Eastern Steamship Lines, Inc., the Florida East Coast Car Ferry Company, and others. Some of the railroad witnesses took the position that the present operation is but the beginning of an effort to extend the service to other ports. G. M. Brush, president of Seatrain Lines, objected to the introduction of the mail subsidy question into the hearing and said that the reason for asking authorization to handle other than Cuban traffic was the decrease in the Cuban traffic since the loan contract was entered into. Before that, he said, there was sufficient tonnage for both Seatrain vessels in the Cuban trade.

A reply filed by the company with the commission to various protests stated that the Missouri Pacific and Texas & Pacific which each own 1,673 shares of the company's Class A stock, have "not even a semblance of control," since they own no Class B stock.

The Interstate Commerce Commission has ordered an investigation as to whether the company's operations and financial transactions are in conformity or consistent with provisions of the interstate commerce act.

## Lee Analyzes Problem of Motor Competition

(Continued from page 549)

rail-highway competition in the United States, follows:

"The railroads are sometimes accused of trying to kill highway transportation with restrictive and destructive legislation. Nothing could be farther from the truth. What we are hoping and expecting is a reasonable and proper code of state and federal legislation. We seek only equal terms and conditions of regulation as between trucks and railroads, and want this to be accomplished by legislation so eminently just and in the

public interest, and in the interest of the legitimate trucking industry itself, that no valid objection can be raised to it. Railroads themselves use trucks in what we consider proper spheres of service, and expect to do so on a larger scale in the future. We are not enemies, but friends, of the legitimate trucker, and want proper legislation to shield him from the effects of destructive internal competition, as well as to protect the railroads from that evil.

"Railroads must build and maintain their own rights-of-way. Truck operators are permitted the use of publicly-

"When a railroad uses the tracks or equipment of another railroad it pays a rental charge thereon, entirely aside from the taxes it pays on the investment in its roadway and equipment. The treatment accorded the competitors of the railroad is entirely different, as is clearly shown by our method of handling the Mississippi River Barge Line, to establish which the government has expended millions of dollars. If you were to invest your money in a building along one of your streets, or a farm beside one of your public highways, you would not dream of permitting the use of either of them by another, particularly for commercial purposes, without paying rent therefor.

"So far as the barge line is concerned it pays no rent, no capital costs, no taxes, nor does it spend a dollar to maintain the highway upon which its barges are operated. The commercial motor vehicle is in largely the same situation. True, it does pay a license fee and gasoline tax, as does the owner of a private automobile, but these charges can only be considered as rent, but in no sense an adequate rental charge. The railroad operates on its own track and pays rent upon such track belonging to other roads as it uses. The railroad pays a very heavy tax upon the capital it has invested in its right-of-way and track. This the motor vehicle does not do and, to that extent at least, it will be universally admitted that it is subsidized by the government. In fact, from 60 to 70 per cent of the taxes collected from the railroads are levied upon its right-of-way, tracks and structures. The property tax paid by the motor vehicle is insignificant compared with that paid by the railroads. Fair-minded people in all sections of the country are demanding that adequate taxes be levied against motor vehicles engaged in commercial service, in order somewhat to equalize our treatment of these two transportation agencies."

—From an address by C. D. Morris, assistant to chairman, Western Railways' Committee on Public Relations, before the Mt. Morris (Ill.) Kiwanis Club.

owned rights-of-way built for public use and not for private gain.

"In addition to furnishing their own rights-of-way, the railroads contribute hundreds of millions of dollars in taxes toward general governmental expenses. Motor vehicle operators feel they have done their share when they pay part of the cost of building and maintaining the highways without making any contribution at all toward general governmental expenses.

"Railroads pay taxes in every state through which they operate, as well as to the federal government, and in many cases to counties and municipalities. Truckers frequently operate through a number of states on one license plate, and by carrying specially constructed gas tanks are able to buy their gasoline where taxes are lowest and avoid payment of gasoline taxes elsewhere.

"The railroads spend many millions of dollars annually in eliminating highway crossings and in protecting others. The operators of trucks, though among the chief beneficiaries of such improvements, contribute little or nothing to this cost.

"Railroads are prohibited by law from building a single additional mile of track without securing governmental authority. Truck operators, with few exceptions, are at liberty to start or extend operations when and where they please so long as they secure a registration plate for each truck in one state.

"Railroads are not permitted to discontinue the operation of unprofitable lines without governmental permission. They must usually submit to long and expensive hearings. Generally speaking, truck operators may discontinue or suspend service over-night and without any obligation to give notice.

"Railroad operations are surrounded with every safeguard for public and employee welfare, and railroad employees are selected and trained under rigid rules. Those in train and engine service are given frequent and thorough physical examinations. Their hours of service are regulated in the interest of safety. None of these practices is in effect with respect to trucks.

"Railroads must publish and adhere to their rates, which must be fair, reasonable, and non-discriminatory, and cannot be changed without due notice. Railroads cannot bargain for business. They must accept all traffic offered, and to all destinations, at published tariff rates. For the most part, motor trucks are not bound by any of these restrictions, which are clearly for the public welfare. One of the most serious and unfair advantages enjoyed by the trucks is their ability to pick and choose their traffic. The consequence is that they take the cream, and leave the less desirable to the railroads.

"The remedy for the existing situation is to establish in every state regulations adequate to accomplish four general main purposes:

"(1) The establishment of a system of payment for highway use, apportioned in accordance with the actual use of the highways by vehicles of varying sizes, weights and kinds. This will probably

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- These roads are effecting substantial economies by concentrating as much of their road work as possible on the newer, more efficient power. Old, high-operating-cost locomotives are "white-leaded".

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● Now  
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business.





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● At this time, when economy is most important, Super-Power is earning its way and justifying the foresight of railroads having a progressive motive power policy.

● Now is the time to be working on new power, because you can't afford to return the old locomotives to service when business improves.

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involve some recognition of the factors of both weight and mileage. In addition to paying adequately for highway use, truck operators should contribute, in taxes, to the general expense of government, as the railroads are required to do.

"(2) The placing of reasonable limits on width, height, length and weight of trucks, in the interest of safety and to check the destruction of highways and bridges and reduce the cost of building new ones.

"(3) The barring of freight trains from our highways, including the excessive use of unwieldy trailers.

"(4) Limitation of the reciprocity now allowed to trucks in many states. Trucks operated for profit should pay every state in which they run for the privilege of using its highways to carry on private business.

"While this program is one of state control, it should be supplemented by federal regulation of interstate trucking. Congress has ample power for this purpose under the commerce clause of the Constitution.

"Substantial trucking interests, generally speaking, are not in opposition to legislation of the character outlined, and many of them are actively working for sound regulation. Obstructionists, in most cases, are the irresponsible elements in the industry—the wild-cat trucker, the tramp trucker, the truck peddler, etc. As a matter of fact, absence of proper regulation, together with uncontrolled, wasteful and destructive competition, hurts the trucking industry relatively more than it hurts the railroads, as a result of the continual rate wars which are going on. These wars also are exerting destructive effects in many important branches of production and distribution which are large users of transportation. They are feeling the injurious and disturbing effects of rate instability, secret rate-making and discriminatory and preferential rates.

"The railroads, while advocating the legislation I have outlined, are not sitting idly by pending its enactment with the idea that legislation is the only thing that will help them. On the contrary, we are meeting the situation very materially with improved service. We recognize that under certain local conditions the flexibility of the motor truck permits it to handle traffic economically and efficiently; but, taking the freight business of the country, by and large, including mass transportation over long distances, the railroads yield to no other agency their ability to perform the service most satisfactorily, from the standpoint of cost, time and dependability. This traffic we feel is rightfully ours and we are going after it with all the ingenuity and resources at our command. To this end, freight schedules have been shortened everywhere and, in some cases, cut virtually in half, permitting manufacturers, distributors and dealers to keep their supply of goods at a low and economical point. The railroads have introduced many forms of new and more efficient equipment, while direct

store door collection and delivery of freight also gives promise of favorable results.

"Many other plans and practices looking to more efficient operation are now under active study by the railroads, both individually and collectively, and I have complete confidence in the capability of the railway managers to take continued advantage of every available opportunity for healthy improvements in the service, to the end that the various forms of transportation will find their proper sphere in the general scheme of distribution."

## N. Y. C. of C. Opposes St. Lawrence Project

(Continued from page 548)

likely to be a market for power in the large cities which have steam plants located at tidewater. In substance, the government would be engaging in a most hazardous power speculation when the taxpayers of the nation are already overburdened as a result of the enormous increase in recent years of government services and public improvements, Federal, state and local.

"Assuming that transportation on this canal could take business away from our railroads in spite of its slow speed, irregular service, hazards of ice, fog, etc., the result might well be that many of our railroads would be unable to pay back the large loans recently made to them by the Federal government. Then the taxpayers would bear further burdens.

"The United States does not need additional capital investments in transportation, other than to maintain or improve existing facilities. Without setting forth the well-known large increase in railroad, harbor and terminal facilities in the last 10 years, \* \* \* since the movement for the St. Lawrence project was started, concrete and surfaced roads in the United States have increased 363,300 miles, and the expansion of truck transportation amounts to 2,494,000 vehicles.

"\* \* \* Shipping news recounts the further development of ocean-going freight vessels so constructed that loaded freight cars can be carried to a foreign port. The transportation of cars from rail to rail eliminates loading and reloading at terminals, and in handling certain types of freight, considerable reduction in costs of operation results.

"It is generally considered that a rapid evolution is going on in transportation, and it is no time to spend hundreds of millions on a questionable project for increasing canal facilities for slow-moving boats.

"The canal is more likely to result in import merchandise being laid down in the West at lower prices. Scandinavian pulp for paper mills is already shipped to Great Lake ports, and is proving a great injury to this industry in the United States. Many experts believe that what the country needs is new transportation routes to the Far East and South Ameri-

ca rather than to Europe; and that the greatest opportunities for expansion of our foreign trade lie in the Far Eastern and South American countries.

"In short, the St. Lawrence canal project is economically unsound, commercially unwise, and politically inadvisable."

### Factual Analysis

The detailed factual analysis on which the foregoing conclusions were based follows in part:

(1) Owing to discoveries and the development of new processes, steam power can be developed to compete with hydroelectric power. \* \* \* Engineers have found by actual experience, as at Massena, N. Y., that the cold winter climate in the St. Lawrence territory raises the cost of generating electric power, owing to the interference of anchor ice. \* \* \* Both the electric and the manufacturing plants operate at a disadvantage compared with establishments located farther south where the climate is milder.

(2) The existing water power and steam plants in the section of the United States which could be economically reached from the St. Lawrence territory by transmission lines are quite adequate to meet the industrial development for many years to come.

(3) The advantage to the wheat grower is being questioned in a number of responsible quarters. The researches being carried on at Stanford University in California bear out the conclusion that the farmer will not be benefited. (See "Waterways of Doubtful Benefit to Wheat Growers, *Railway Age*, September 10, 1932, page 360.)

During the prosperous years of 1922-1926, the grain exports from all north Atlantic ports averaged 60,000,000 bushels. If all this went through the improved St. Lawrence, a saving of 5 cents a bushel would only amount to \$3,000,000, not enough for maintenance of the locks and the canal channel. Even if the total grain exports of the United States, which averaged around 132,000,000 bushels, were sent through the canal, the saving to the farmers, assuming it did not go to the foreign purchaser, would be only a small part of the sum necessary to pay interest and amortization of the huge cost of the project. The taxpayer would fare much better to give the farmer a direct bounty for every bushel of wheat he raises.

(4) It is a fundamental principle of water transportation that long restricted channels are not utilized by ocean-going vessels to any great extent. \* \* \* Owing to the necessary large capital investments in floating craft, and their high operating charges, ocean-going vessels cannot use long restricted channels in direct competition with other means of transportation.

(5) The cheapest water carriers are the ore vessels on the Great Lakes. Popular opinion of the St. Lawrence project is influenced by the assumption that with an outlet to the sea, European rates would be the same or on a corresponding basis as Great Lake ore rates, and would apply on all kinds of merchandise. However, the Lake vessels, when on the St. Lawrence, passing through the canalized river, and through the canal locks, could not make their lake speed. As a large part of the charges against a ship is dependent on time, as for instance the cost of interest, labor, insurance, etc., it is apparent that a material advance in rates over the Great Lakes rates would occur on European shipments.

(6) As speed is one of the most important considerations in transportation, careful attention should be given to the possibilities on the St. Lawrence. \* \* \* It is believed that the speed of vessels using the St. Lawrence canal (on the basis of speeds actually maintained in other canals) could not exceed about 6 m.p.h., with delays at the locks, which would considerably increase the time required.

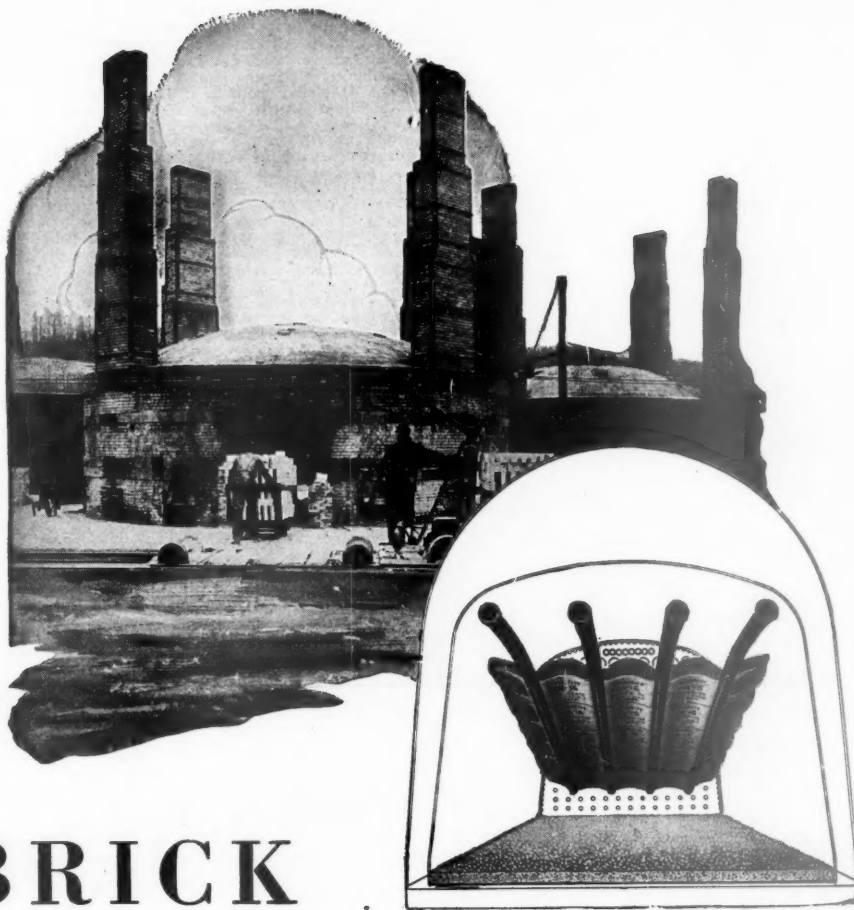
(7) While the distance from Lake ports to Liverpool is about 450 miles shorter via the St. Lawrence than via New York, and to Southampton about 225 miles shorter, there is no saving in distance to many other foreign ports. Furthermore, physical disadvantages would more than offset any gain in distance to ports in England. The ice and fogs in and off the Gulf of St. Lawrence are bad, especially during part of the year. Dangers due to narrow channels, passing other vessels in restricted waterways, and to the locks, would all tend to retard the use of the St. Lawrence route by ocean carriers, except at higher rates for freight and insurance. As Duluth is 601 ft. above sea level, over 20 locks are required in the St. Lawrence and Great Lakes to lift vessels traveling to that port.

Accordingly, even if the loss of time by reduced speed in the canal and by delays at locks is offset by increased speed while traversing the open waters of the Great Lakes, only an average of 6 knots could be maintained. The result is that a freighter would require about 11 days of continuous steaming for the passage from the

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Atlantic to Duluth. In the same time an ocean carrier could go to Europe.

(8) In past years the St. Lawrence has been closed to navigation from November 25 to April 25. Navigation is further interfered with by conditions outside the St. Lawrence. An important interference is the iceberg season, which applies both to the north passage and to the south passage around Newfoundland.

(9) The St. Lawrence route would be closed five months of the year by climatic conditions. Obviously, during four or five months of the year vessels utilizing the Great Lakes would either be tied up in the Lakes by the ice, or would be tied up elsewhere. \* \* \* So a Lake service would be desultory; and vessels would only go to the Lake ports according as chartering conditions would favor such a movement.

(10) Traffic cannot be built up without regular and frequent service extending throughout the year. Freight goes to a port where such service exists. \* \* \* It would not be possible to make such a port in the Great Lakes. \* \* \* A shipper cannot send his goods profitably to a port with an occasional steamer except under special circumstances.

(11) The economics of industry and transportation show that it is not practical to build expensive machinery which can only be used a part of the year. As the canal is closed with ice four or five months, this principle would operate against its success. At the present time, ocean lines running to Quebec and Montreal require additional terminal facilities at St. John, N. B., or Portland, Me., for winter use—double the terminal facilities of those lines operating exclusively upon the ocean. In addition to the waste of capital by double ocean terminals, the rail transportation systems must maintain sufficient facilities to handle the tonnage in winter which would in summer be transported by water through the St. Lawrence. Much idle rail equipment must be kept in reserve to meet the demands of the period when the canal is closed.

(12) At the time the movement for a St. Lawrence canal was inaugurated, the United States was suffering from a serious traffic congestion, brought on by the exigencies of the World War. This situation has long ago disappeared. \* \* \* The present capital investment in transportation facilities is more than sufficient, and a congestion of freight for years to come does not seem probable.

(13) Not only on the railroads, but in some of the nation's ports, traffic congestion was a serious matter to shippers during, and soon after, the World War. These situations have also been corrected.

(14) The Federal government, through the Reconstruction Finance Corporation, has loaned vast sums to the railroads to enable them to tide over our business depression. It would therefore seem unwise for the government to expend large sums of money to build up competition for the railroads, and to make it increasingly difficult for the railroads to pay back the money borrowed from the government.

(15) It should not be forgotten that, in the event of the United States being at war with some other country, international law would prohibit England from allowing the United States to use the St. Lawrence channel. It is not permissible for belligerents to ship through neutral territory.

(16) Very exhaustive studies of the project show quite conclusively that the expenditure of the tremendous amount of money involved cannot be justified on any economic ground. (The report here quotes at some length from the adverse report on the St. Lawrence waterway issued by Professor Harold G. Moulton of the Brookings Institute, and published in the *Railway Age* of July 27, 1929, page 241.)

(18) The \$400,000,000 which Canada anticipates the United States will put into this enterprise does not cover the large sums which must be spent by other governmental bodies, if the canal is to be utilized to the extent its promoters promise. At least \$250,000,000 will be necessary to deepen the harbors and improve the docks and piers at the various Great Lakes ports to accommodate ocean-going vessels. The Chicago Drainage canal and other factors have, in recent years, lowered the water in the Great Lakes, and accordingly increased the amount of dredging which will be necessary at the various harbors.

(19) There is no notable evidence that any great improvement in transportation has resulted in higher prices for present producers. Benefits of cheaper transportation have generally gone to the purchasers. \* \* \* The saving by the Suez and Panama canals has accrued largely to the buyers in Europe. So it is anticipated that a St. Lawrence development would greatly increase wheat production in Canada, with the result that European prices would be influenced unfavorably, and to the disadvantage of the producer in the United States. European preference for certain grades of Canadian wheat; probable increased production in Canada, Russia, and other low cost areas; and the possibility of European protective tariffs would combine to create a potential market situation which could not be offset even by a gift by the Federal government to farmers of free wheat transportation to Europe.

(21) There is a strong sentiment in this coun-

try for Federal regulation of transportation by trucks and waterways in order to place the railroads upon a more or less equal basis with formidable competitors who enjoy the subsidy of government-built highway and waterway improvements. It would seem as if such regulation upon a waterway jointly owned by two governments, and largely passing through foreign territory, would have difficulty. A Federal commission could hardly regulate freight rates and other matters of steamship lines flying a foreign flag; nor could it equitably place any restrictions upon United States boats plying the St. Lawrence route which would handicap them in competing with foreign flags also operating through the canal.

(22) This Chamber has gone on record on several occasions against government participation in business. It seems as if the huge expenditure contemplated on the St. Lawrence is closely akin to the enterprises this Chamber so often criticized. A subsidized transportation facility is to be created for the supposed benefit of one group of our citizens, the success of which would materially damage many other groups of private citizens in their lawful pursuits. As is well pointed out no scientific principles exist which can be used as a guide in allocating the expenditures on the canal which are for navigation to be paid by the government, and the expenditures which are for waterpower and accordingly should be self-sustaining. The result will be that the private electric power industry will not know for years what competition to expect from the St. Lawrence. Also, the railroad industry will be uncertain as to the effect the opening of the canal will have upon its business. It might even develop that the government will go into the operation of barges or similar craft on the St. Lawrence waterway when completed, as it has on the Mississippi river, which this Chamber condemned on December 3, 1931. It might even happen that Congress would decide to put the Federal government still further into the water-power business.

## Foreign

### German National Railroad Company in 1931

By drawing upon its statutory reserves to such an extent that it faced 1932 with "no more reserves worth speaking of available" the German National Railroad Company was able to balance its budget for the year ending December 31, 1931. The annual report recently issued reveals that 1931 net revenues from operations were insufficient by \$123,169,000 (reichsmarks converted at par) to meet depreciation charges, interest, reparations payments and dividends on preferred stock.

Figures comparing gross revenues, operating expenses and net revenues for the seven years of the German National Railroad Company's existence are as follows:

	Gross Revenues	Operating Expenses (000 omitted)	Net Revenues
1925	1,111,246	946,002	165,244
1926	1,080,711	875,983	204,728
1927	1,199,353	989,794	209,559
1928	1,227,890	1,022,067	205,823
1929	1,274,204	1,069,453	204,751
1930	1,087,735	973,504	114,231
1931	915,983	862,148	53,835

NOTE: Par value (23.8 cents) used in converting reichsmarks to dollars.

As the foregoing indicates gross revenues in 1931 where 16 per cent less than in 1930 and 28 per cent less than in 1929. At the end of 1931, the report points out in explaining the depressed revenues, industrial production in Germany had declined to the level of 1897-1898; freight traffic, which in 1927 amounted to 7.73 tons per head of the population, was in 1931 only 6.15 tons, the level of 1908. In connection with operating expenses it is pointed out that despite "exceptional meas-

ures of economy, it was found impossible to adjust the expenditure to the decreasing revenue." Nevertheless expenses, other than reparations charges, were reduced 11 per cent as compared with 1930 and 19 per cent as compared with 1929.

Following through on the complaint voiced in the 1930 report the present review again calls attention to "the burdens which the company is compelled to bear in the interests of the government without any regard to the earning capacity or to the financial position of the company." The total of these "burdens" for 1931 is listed as \$269,940,000, including: Reparations charges, \$78,540,000; contribution to the German government for reparations purposes, \$72,471,000; dividend on preferred stock issued to the government "in connection with reparations without valuable consideration," \$8,330,000; transport tax, \$56,335,000; pension payments, etc., \$51,408,000; and increased costs arising from the new demarcation of frontiers, \$2,856,000.

The Hoover moratorium on inter-governmental debts and reparations payments, the report says, "merely results in easing the cash position of the German National Railroad Company and helps the budgetary position to a very small extent only. In spite of this alleviation the reparations burden is now 16.5 per cent of the revenue whereas in 1929 it was 12.3 per cent."

Reparations charges against the railways were fixed by the Young Plan at the equivalent of \$157,080,000 a year. Half of the 1931 assessment or \$78,540,000 was paid before the Hoover moratorium became effective on July 1, 1931. The moratorium arrangement involved a loan in the latter half of 1931 of \$64,148,000 to the railways from the Bank for International Settlements, the loan being granted out of proceeds of annuities not covered by the moratorium and paid by the German government to the Bank. This \$64,148,000 was turned over by the railways to the government but it is carried as a liability in the railway accounts. In addition the railways, during the latter half of 1931, were assessed \$8,330,000 to aid the government in paying unsuspended annuities. Thus the total 1931 reparations charge on the railways amounted to the half-yearly payment of \$78,540,000 plus the liability of \$64,148,000 assumed on the B. I. S. loan, plus the \$8,330,000 assessment—a total charge of \$151,018,000 (although the cash outlay was only \$86,870,000) as compared with the 1930 reparations payment of \$157,080,000.

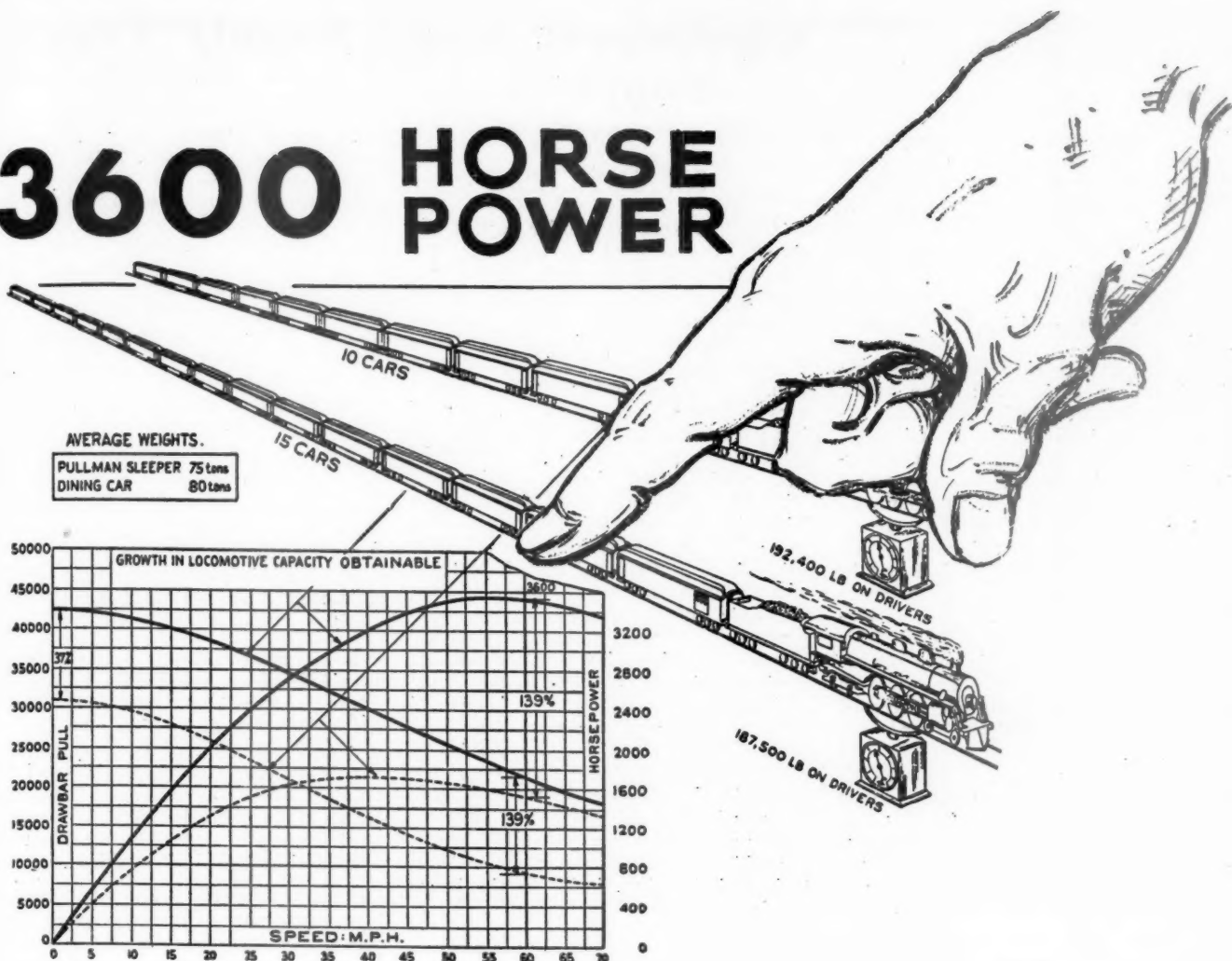
"It must be obvious," says the report "that a prior charge of this nature makes it difficult for the company to do justice to its duties to the public, particularly when its revenues are sinking."

The loss of business as compared with previous years arose from declines in both passenger and freight traffic. The 1931 passenger revenue of \$273,790,000 was 15 per cent under the 1930 figure; it was 19 per cent below 1929 and 20 per cent below 1928. "The impoverishment of large groups of the population," the report explains, "revealed itself in the marked movement from first and second class to

Continued on next left-hand page



# 3600 HORSE POWER



## More Than Twice the Power Capacity

*To Economize  
Modernize*

THINK of it—3600 hp. as against only 1500 hp.; 37 per cent more drawbar pull at starting; 139 per cent more drawbar pull at passenger express speed of 60 miles per hour. That shows how vastly superior a modern locomotive proved itself over a 1920 locomotive in the same passenger service on the same railroad. Both locomotives are actual cases. The curves in the above graph represent their actual performance, the dotted curves represent the performance of the 1920 locomotive and the solid curves that of the modern locomotive.

How did the modern locomotive save money and improve operating efficiency?

The modern locomotive now hauls 15 Pullmans instead of 10 at no sacrifice in speed. The longer trains reduced the number of sections on limited trains during times of heavy traffic. Fewer diners are now necessary. Two trains are often combined into one. That reduces costs and increases track capacity. It adds safety for it increases the headway between trains.

Modernize—it is one sure means of securing larger profits from a smaller volume of business.

Modernize—for no matter what the volume of business, cost reduction is always a sound investment.

**American Locomotive Company**  
 30 Church Street New York N.Y.

third class and in the decrease in workers' transportation in industrial areas."

The 19 per cent decline in freight revenues as compared with the previous year was "spread over all classes of commodities, which proves that all sections of the business world share in the depression." The company nevertheless made an "earnest endeavor to maintain traffic service, to improve it and to increase the speed of transport" and it regards "the introduction of small locomotives for shunting operations, the employment of 'light trains' and the use of containers as means to this end."

Several reductions in freight rates were placed into effect in 1931: One to aid agricultural and coal mining interests afflicted by the depression; a second as the result of an emergency governmental order in connection with highway transport regulation; and a third in connection with another emergency decree designed to produce a general reduction in prices. The full effect of these reductions will be reflected in the 1932 accounts wherein they are expected to show a loss in revenue of approximately \$95,000,000. This loss, the report says, will be only partially counterbalanced by "the decreases in salaries and wages and in the prices of materials which took place towards the end of 1931."

"That an offset for the remainder of the lost revenue can be found in increased traffic is not to be expected," it continues, "having regard to the present economic situation and in view of the competition of road traffic which has not decreased at all. The fact that the tariffs for high class goods have been reduced several times will make it impossible for the company in future to do justice to the needs of the community in general in regard to its tariffs for low-class goods. There is a definite danger that it will be impossible soon to keep these tariffs on their existing basis."

Commenting on highway competition for freight traffic the report reviews the effect of the new regulatory decree, the provisions of which were outlined in the *Railway Age* of November 21, 1931, page 804. "The aim of this piece of legislation," it says, "can only be achieved if it succeeds in setting up an effective system of check on the goods carried. The chances of the system of check being efficacious have recently been made more doubtful by the fact that the Ministry of Transport has departed from its original intention of having only one classification of goods for road transport and has introduced three classifications for road traffic. . . . The goal to be aimed at must be to employ road transport where conditions are such that it can serve the needs of traffic in the general interests of the community more efficiently than the railway can. The agreement which the company concluded in February, 1931, serves this end."

This latter refers to the rail-highway co-ordinating arrangement, announced in the *Railway Age* of July 18, 1931, page 111, which involves door-to-door operations under single tariffs for the complete services.

## Equipment and Supplies

### FREIGHT CARS

THE PENNSYLVANIA order reported in the *Railway Age* of September 24 was placed in three of its shops for the construction of 1,285 box cars to be built with the money to be provided by the \$2,000,000 "work loan" just negotiated with the Reconstruction Finance Corporation. The order includes 925 steel box cars and 360 steel automobile cars of large dimensions. Two hundred fifty of these automobile cars will be 40 ft. 6 in. long, while 110 will be 50 ft. 6 in. long, with 50 of the latter having end doors. The Altoona works will build 485 of the cars; 400 will be constructed at the Pittsburgh shops in the Pittsburgh district and 400 at the Enola (Pa.) shops. Simultaneously with the start of this new work, a rearrangement of the heavy freight car repairs at Enola and also at the Altoona works will be made by transferring some of it to the Terre Haute, Ind., shops and some to the shops at Mahoningtown, near New Castle, Pa., giving increased employment at five separate shops on the Pennsylvania system. Work at Terre Haute will be concentrated on box cars. Heavy repairs to the mill type of gondola car will go to the Mahoningtown shops. This entire project, including the heavy repair work which will be done at Terre Haute and Mahoningtown, will provide an equivalent of employment for approximately 700 men. It has been so planned that it will extend over a period of five months. To build the cars about 19,000 tons of steel will be required. They are of the all-steel type now standard on the Pennsylvania. All of the material and supplies will be ordered at once for immediate delivery and this will give employment to many men in other industries. Fabrication of the material entering into the construction of the cars will be started within the next ten days or two weeks. The actual assembling and erection of the new cars is scheduled to begin November 1.

### PASSENGER CARS

THE GENERAL PURCHASING officer of the Panama Canal, Washington, D. C., has received bids on a rail motor car, to be equipped with electric motors.

### IRON & STEEL

THE SOUTHERN PACIFIC is inquiring for 300 tons of structural steel for a bridge at Houston, Tex.

THE WESTERN MARYLAND has recently ordered from the Carnegie Steel Company, 1,000 tons of 90-lb. rail, and also a like amount from the Bethlehem Steel Company.

## Supply Trade

J. B. Whitenack, formerly railroad sales representative of Joseph T. Ryerson & Son, Inc., has been appointed railroad representative of the Bryant Machinery & Engineering Company, Chicago, with headquarters in that city.

Thomas P. McGinnis has been appointed special representative of the Argyle Railway Supply Company, Chicago, with headquarters in the Chamber of Commerce building, Pittsburgh, Pa., and will cover the Pittsburgh and Cleveland territories.

Frank Marmion, assistant to the district manager of sales of the American Steel & Wire Company, with headquarters at Birmingham, Ala., has been promoted to district manager of sales, with the same headquarters, to succeed J. J. Gilmore, who has retired because of ill health.

Benjamin F. Mohr, assistant to the president of the Illinois Steel Company, Chicago, retired on October 8 after almost 42 years of service. In 1891 he entered the accounting department of the Joliet works of the company, being transferred to the Chicago offices nine years later. Shortly afterward he was made assistant to the vice-president and then assistant to the president.

F. A. Merrick, president, Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., announces that this company is prepared to spend \$1,260,000 for raw materials, supplies and development work that will open up extensive new markets for electrical equipment. The funds are immediately available and will be expended during the next few months.

The Marlin-Rockwell Corporation manufacturers of ball bearings, Jamestown, N. Y., on October 1, consolidated the sales activities formerly carried on independently by the following subsidiary companies: Gurney Ball Bearing division, Jamestown, N. Y., Standard Steel & Bearings Incorporated, Plainville, Conn., and Strom Bearings Company, Chicago. The bearings manufactured by all of the above companies are now available through the corporation's sales organization at Jamestown, N. Y., with eastern district sales office at Plainville, Conn., western district sales office at Chicago, and branch sales offices at Detroit, Mich., Cincinnati, Ohio, Cleveland, Los Angeles, Cal., San Francisco, and New York City.

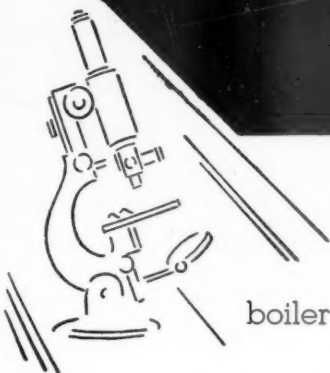
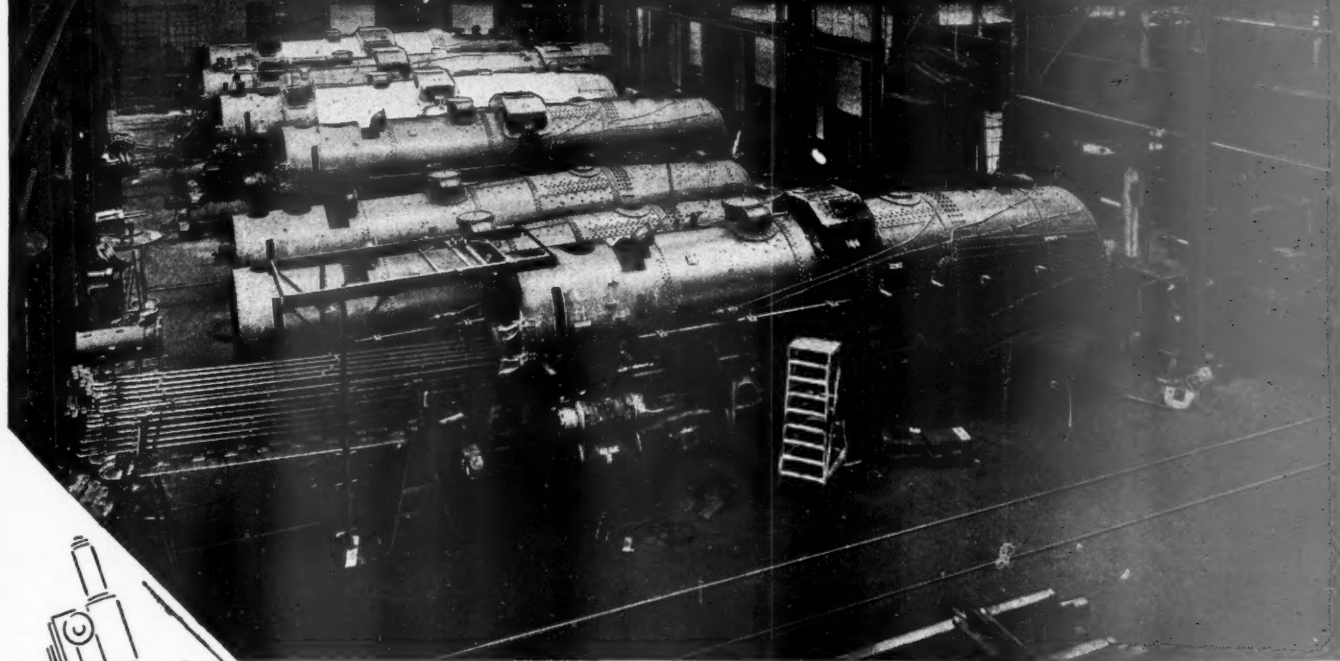
### OBITUARY

Samuel L. Smith, vice-president of the National Malleable & Steel Casting Company, with headquarters at Cleveland, Ohio, died in that city on October 6.

Continued on next left-hand page.



# SPECIAL REPUBLIC STEELS ARE MEETING THE DEMAND FOR BETTER MATERIALS



Faster speeds; greater stresses in the running gear and higher

boiler pressures have raised a host of questions about material. « Corrosion

and fire-cracking are bothering fireboxes and boiler tubes. « Axles are failing from fatigue

of metal. « Bolts are stretching under increased stresses. « Springs won't

stand up under the heavy loads of modern equipment. « To many of

these problems Republic Metallurgists have found the answer. « Modern

alloy materials have been developed to meet specific conditions. Where

you have a materials problem involving iron and steel, consult Republic.

Toncan Iron Boiler Tubes, Pipe, Plates, Culverts, Rivets, Staybolts, Tender Plates and Firebox Sheets • Sheets and Strip for special railroad purposes • Agathon Alloy Steels for Locomotive Parts • Agathon Engine Bolt Steel • Agathon Iron for pins and bushings • Agathon Staybolt Iron • Climax Steel Staybolts • Upson Bolts and Nuts • Track Material, Maney Guard Rail Assemblies • Enduro Stainless Steel for dining car equipment, for refrigeration cars and for firebox sheets • Agathon Nickel Forging Steel (20-27 Carbon).

The Birdsboro Steel Foundry & Machine Company of Birdsboro, Penna., has manufactured and is prepared to supply under license, Toncan Copper Molybdenum Iron castings for locomotives.

C E N T R A L   A L L O Y   D I V I S I O N

	<p><b>REPUBLIC STEEL</b> C O R P O R A T I O N MASSILLON, OHIO</p>	
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**Theodore W. Siemon**, retired vice-president, treasurer and director of the Union Switch & Signal Company, died at Pittsburgh, Pa., on September 22. Mr. Siemon was born in Allegheny, Pa. on August 4, 1859. His first business affiliation was with the Lewis, Oliver & Phillips Company, iron and steel manufacturers. Prior to Mr. Siemon's connection with the Union Switch & Signal Company, he was treasurer and general manager of the Philadelphia Company and was associated with George Westinghouse in this and other activities. In 1899, when Mr. Westinghouse sold his interests in the Philadelphia Company, Mr. Siemon went with the Westinghouse Electric & Manufacturing Company as assistant treasurer and in 1902 became treasurer. In 1914 he became connected with the Union Switch & Signal Company as secretary, treasurer and director, and was elected vice-president in 1915. He was instrumental in the development of the Union Switch & Signal Company's forge business from a commercial standpoint. He retired from his activities with the Union Switch & Signal Company in 1922.

## TRADE PUBLICATION

**WHEEL IMPACT ON CROSSINGS.**—By applying mathematical principles to the behavior of car wheels in traversing the flangeways of crossings, C. A. Alden, chief engineer, Frog & Switch division, Steelton Plant, Bethlehem Steel Company, has determined the trajectory of wheels as they take the "pump," and with this information has been able to show the intensity of the impact produced in terms of speed, weight of the equipment and wear of the running surface adjacent to the flangeway. An exposition of this development, with particular reference to the relation of impact to wear of manganese trackwork is presented in a bulletin of 24 pages, issued by the Manganese Track Society, which, in addition to a general discussion, includes an appendix containing Mr. Alden's complete mathematical derivation as well as tables of computed values. Copies of this bulletin may be had upon application to R. E. Einstein, secretary-treasurer, Manganese Track Society, 6650 Easton avenue, St. Louis, Mo.

**AMONG THE VARIED FORMS OF ORDERS** made by the New York State Public Service Commission, in authorizing reduced service at small stations, one recently issued (October 7) provides for caretakers to be on duty four hours a day, to keep the station buildings in proper condition, and also to handle small freight and all express shipments. The order refers to Mount Marion and West Park on the New York Central. Mount Marion will be under the charge of the agent at Saugerties, and West Park will be under the agent at Esopus. In both cases, carload shipments, which constitute the bulk of the freight, will be taken care of by the agent at the controlling station; but for small shipments the caretakers will both receive and deliver. Passengers will have to purchase tickets on the trains.

## Construction

**BOSTON & ALBANY.**—The New York Public Service Commission has designated for elimination the Third Street and Tanners Lane crossings of this company's tracks in Hudson, N. Y. The Tanners Lane crossing will be closed while Third Street will be elevated to cross the tracks on a new overhead bridge.

**CANADIAN NATIONAL.**—The Quebec Roads Department has awarded to Laflamme & Laflamme, Montreal, Que., a \$39,000 contract for construction of a subway to carry Petite Cote road, Vaudreuil, Que., under the C. N. R. tracks; and the railway company has awarded to the W. G. Campbell Engineering & Construction Company, Toronto, Ont., a contract for reconstruction of the subway carrying Ontario King's Highway No. 5 under its line at a point about 1½ miles east of St. George, Ont. The C. N. R. has been authorized to build an extension of its fruit warehouse at Montreal, and has started work with company forces on repairs to its bridge over the St. John river between Fredericton, N. B., and South Devon.

**NEW ORLEANS PUBLIC BELT.**—Construction of the Public Belt combination railroad and highway bridge across the Mississippi river about nine miles above New Orleans, La., is expected to be commenced early next month, following the action of the Reconstruction Finance Corporation in agreeing to bid for bonds of the State of Louisiana and to purchase bonds of the Public Belt Railroad Commission of the city of New Orleans in amounts sufficient to provide for the construction of the bridge, which is estimated to cost \$13,000,000. The successful bidders on the project, whose bids have been extended for nearly a year, are the American Bridge Company, Pittsburgh, Pa., the McClintic-Marshall Corporation, Bethlehem, Pa., Siems-Helmets, Inc., St. Paul, Minn., and the MacDonald Engineering Company, Chicago.

**VIRGINIAN.**—This road has awarded to the Norfolk Dredging Company, Norfolk, Va., a contract amounting to approximately \$40,000 for the redredging of a portion of the south approach channel and slip between its coal piers No. 1 and No. 2, and of the south slip of coal pier No. 2, at Sewalls Point, Norfolk.

**THE OHIO VALLEY SHIPPERS' ADVISORY BOARD** will hold its regular meeting at the Brown Hotel, Louisville, Ky., on Tuesday, October 18. The president of this board is J. G. Young, Columbus, Ohio, and the chairman of the committee of arrangements at Louisville is E. L. German, president of the Bourbon Stock Yards. The noon-day luncheon will be addressed by W. R. Cole, president of the Louisville & Nashville. The American Association of Freight Traffic Officers also meets in Louisville on October 18, and the Associated Traffic Clubs of America on October 19 and 20.

## Financial

**CHICAGO & NORTH WESTERN.**—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon a 3.9 mile portion of its Michigamme branch in Marquette County, Mich.; its 12.1-mile Republic branch; and its 1.2-mile Champion branch.

**CHICAGO, INDIANAPOLIS & LOUISVILLE.**—*Securities.*—The Interstate Commerce Commission has authorized this company to issue \$750,000 of promissory notes and to pledge as collateral security \$233,000 of 5 per cent, series A, and \$2,255,000 of 6 per cent, series B, first and general mortgage bonds, the notes to be used in payment for a maturing issue.

**GULF, MOBILE & NORTHERN.**—*Bonds.*—The Interstate Commerce Commission has authorized this company to pledge \$684,000 of first mortgage bonds, series C, with the Railroad Credit Corporation as collateral security for a loan.

**MURFREESBORO-NASHVILLE.**—*R. F. C. Loan.*—This company has applied to the Reconstruction Finance Corporation for a loan of \$30,000 to pay taxes and outstanding obligations and provide working capital.

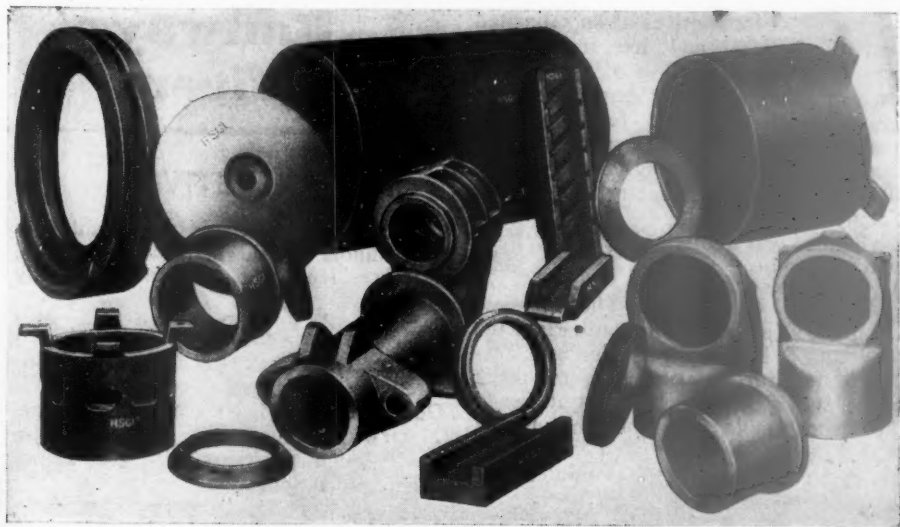
**NEW ORLEANS PUBLIC BELT.**—*Valuation.*—The Interstate Commerce Commission has issued a final valuation report as of 1918 finding the final value for rate-making purposes of the property of the city of New Orleans, La., devoted to common-carrier purposes under the name of the New Orleans Public Belt Railroad to be \$1,207,500.

**NEW YORK CENTRAL.**—*Abandonment.*—This company, the Cleveland, Cincinnati, Chicago & St. Louis, and the Kankakee & Seneca, have applied to the Interstate Commerce Commission for authority for the abandonment of the latter company's line from Kankakee, Ill., to Seneca, 42.19 miles.

**NEW YORK, CHICAGO & ST. LOUIS.**—*Receivership Denied.*—Federal Judge James H. Wilkerson, on October 7, denied the petition for receivership filed against this railroad, allowing the petitioning attorneys 20 days in which to file an amended bill asking receivership. The original petition was filed on behalf of Samuel Kaplan, holder of three \$1,000 notes of the railroad, who alleged that failure of the railroad to pay the principal amount of the notes, due October 1, would lay it open to a multiplicity of suits and on that account a receiver should be appointed. Attorneys for the railroad showed that more than 75 per cent of the holders of \$20,000,000 bonds have agreed to a refunding plan.

**NEW YORK, NEW HAVEN & HARTFORD.**—*R.F.C. Work Loan.*—The Interstate Commerce Commission on October 7 approved a loan of \$700,000 to this company from the Reconstruction Finance Corporation for the purpose of providing employment and stimulating business through the re-





# Economies that Please the Directors

IN your search for additional economies why not go after the savings in fuel and maintenance that can be effected by the use of HUNT-SPILLER *Air Furnace* GUN IRON.

This material is recognized as one of the most important factors contributing to the economical operation of modern power.

Apply it in the valves and cylinders—note the increased efficiency of your locomotives—the decrease in fuel consumption per ton mile.

Also make sure that your Crosshead Shoes, Outer Rod Bushings, Pedestal Shoes and Wedges are stamped HSGI.

Then compare the difference in mileage with previous performance—and note the big decrease in running repairs. No extra expenditures are required to obtain these economies.

**HSGI**

Reg. U. S. Trade Mark

Cylinder Bushings  
Cylinder Packing Rings  
Pistons or Piston Bull Rings  
Valve Bushings  
Valve Packing Rings  
Valve Bull Rings  
Crosshead Shoes  
Hub Liners  
Shoes and Wedges  
Floating Rod Bushings

Parts Finished for  
Application

Dunbar Sectional Type  
Packing  
Duplex Sectional Type  
Packing  
(Duplex Springs for Above  
Sectional Packing)  
Cylinder Snap Rings  
Valve Rings All Shapes

**HUNT-SPILLER MFG. CORPORATION**  
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# HUNT-SPILLER GUN IRON

*Air Furnace*

pairing of 93 locomotives at an estimated cost of \$585,000 and 160 freight-train cars at an estimated cost of \$113,760, in its own shops, affording employment for approximately 400 men for about six months. As security the commission concluded that the company should pledge 10,300 shares of common stock of the Old Colony.

The loan was authorized by the R. F. C. on October 10.

**PENNSYLVANIA.—Bonds.**—The Interstate Commerce Commission has authorized the Cleveland & Pittsburgh to issue \$471,000, 000 of general and refunding mortgage bonds, series B, to be delivered at par to the Pennsylvania in reimbursement for capital expenditures. The Pennsylvania has been authorized to guarantee the bonds.

**SOUTHERN.—Abandonment.**—The Interstate Commerce Commission has authorized this company and the Virginia & Southwestern to abandon the latter's line extending from Rexford, Tenn., to Bula-deen, 10.6 miles.

**SOUTHERN NEW ENGLAND.—Sale of Land.**—The United States marshal's office at Boston, on October 5 sold at auction more than half the right-of-way in Massachusetts of this projected railway. The line was originally planned to connect Providence with the Central Vermont at Palmer, Mass., and a beginning was made on actual construction.

**SPOKANE, PORTLAND & SEATTLE.—Valuation.**—The Interstate Commerce Commission has issued a final valuation report as of 1916 finding the final value for rate-making purposes of the property owned and used for common-carrier purposes to be \$58,300,000. The final value of the property of the Oregon Trunk was placed at \$14,824,086.

#### Average Prices of Stocks and of Bonds

	Oct. 11	Last week	Last year
Average price of 20 representative railway stocks..	22.38	28.67	47.50
Average price of 20 representative railway bonds..	60.24	64.73	79.03

#### Dividends Declared

Nashua & Lowell—\$4.00, semi-annually, payable November 1 to holders of record October 15.  
Northern R. R. of N. H.—\$1.50, quarterly, payable October 31 to holders of record October 5.

#### Tentative Valuation Reports

The Interstate Commerce Commission has issued tentative valuation reports, finding the final value for rate-making purposes of the property owned and used for common-carrier purposes, as of the respective valuation dates, as follows:

Helena Southwestern .....	\$195,000	1927
Quakertown & Bethlehem .....	285,000	1927
Winifrede .....	162,000	1927
City of Prineville .....	240,000	1927
Valley & Siletta .....	1,150,000	1927
Camino, Placerville & Lake Tahoe .....	160,000	1927

THE PENNSYLVANIA has inaugurated short-limit winter excursion rates from all stations on its lines to points in Florida and on the Gulf Coast, and to Havana, at three-fourths of the regular tourist fares. The tickets will be good for 18 days, and those for Havana 23 days.

## Railway Officers

### EXECUTIVE

**A. C. Friedsam**, assistant auditor of the Illinois Northern, has been elected vice-president and auditor, succeeding **J. E. Ryan**, retired.

**D. T. Lawrence** has been elected chairman of the Presidents' Traffic Conference for Eastern Territory, and **J. Gottschalk** has been elected secretary. Messrs. Lawrence and Gottschalk also hold similar positions with the Trunk Line Association.

**M. A. Walsh**, first vice-president and general counsel of the Rock Island Southern, has been elected to the newly-created position of senior vice-president and general counsel, with headquarters as before at Burlington, Iowa. **J. B. Gillman**, second vice-president and general freight agent, with headquarters at Rock Island, Ill., has been elected to the newly-created position of vice-president and traffic manager, with the same headquarters.

#### S. J. Hungerford Elected President of Central Vermont

**S. J. Hungerford**, acting president of the Canadian National, was elected president of the Central Vermont on October 10, to succeed Sir Henry Thornton, whose resignation was announced several months ago. Coincident with Mr. Hungerford's election as president, Edmund Deschenes, manager and comptroller of the Central Vermont, and D. C. Grant, financial vice-



S. J. Hungerford

president of the Canadian National, were appointed directors of the Central Vermont, succeeding respectively Sir Henry Thornton and Gerard Ruel, formerly vice-president in charge of legal affairs of the Canadian National, whose resignation was reported in the *Railway Age* of October 8. The executive committee of the Central Vermont was re-organized at the same time, with Mr. Hungerford as chairman and Messrs. Deschenes and Grant as members.

Mr. Hungerford was born on July 16, 1872, near Bedford, Que., and received a

high school education. He entered railway service in 1886 as a machinist's apprentice on the Canadian Pacific at Farnham, Que. From 1891 to 1897 he served as a machinist at various points in Quebec, Ontario, and Vermont. From 1897 to 1900 he was assistant foreman at Farnham, Que, and during the latter year he was promoted to locomotive foreman at Megantic, Que. From 1901 to 1903 he served in a similar capacity at Cranbrook, B. C. In 1903 he was appointed master mechanic at Calgary, Alta., and in 1907 he was promoted to superintendent of locomotive shops at Winnipeg. Seven years later he became superintendent of Western Lines of the Canadian Northern (now part of the C. N. R.), at Winnipeg, Man. A month later he was appointed superintendent of rolling stock of the entire system with headquarters at Toronto. In 1917, he was advanced to general manager of the Eastern Lines with headquarters at Toronto, and in 1918 he was appointed assistant vice-president of the Canadian National. In 1920 he was appointed vice-president in charge of operation, and in 1923 he was given charge of operation and maintenance of the entire system, holding that position until his recent election as acting president.

### OPERATING

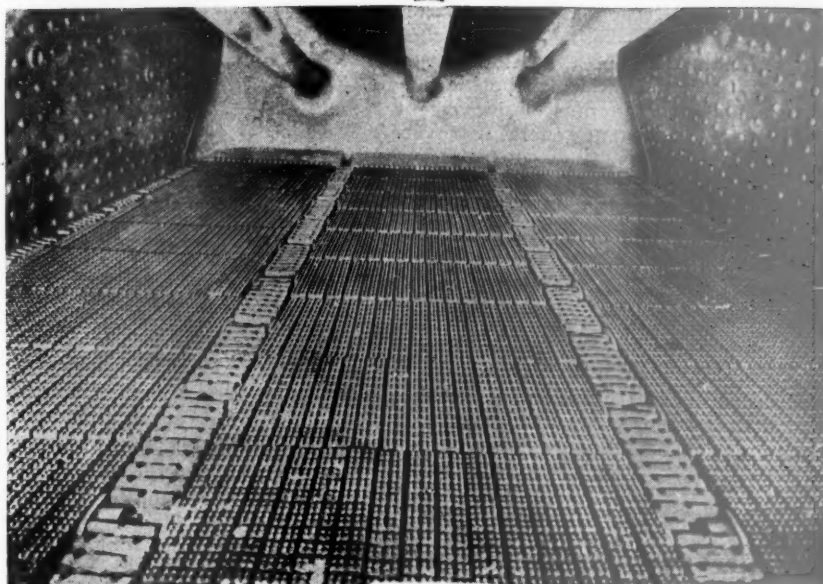
**T. J. Foley**, assistant superintendent of the Shasta division of the Southern Pacific, Pacific Lines, with headquarters at Dunsmuir, Cal., has been transferred to the Salt Lake division, with headquarters at Sparks, Nev., succeeding **L. C. Gram**, who has been transferred to the Tucson division, with headquarters at Tucson, Ariz. Mr. Gram replaces **J. C. Goodfellow**, who has been transferred to the Coast division, with headquarters at San Francisco, Cal., where he succeeds **A. A. Lowe**, who has been appointed supervisor of transportation at the same point. **R. G. Prosole** has been appointed trainmaster on the Tucson division, at Phoenix, Ariz., succeeding **E. E. Wheeler**, who has been assigned to other duties.

**Earle E. McCarty**, who has been appointed assistant general manager of the Northern district of the Western Lines of the Atchison, Topeka & Santa Fe, with headquarters at La Junta, Colo., as noted in the *Railway Age* of October 8, has been connected with the operating department of the Santa Fe almost continuously for the last 33 years. He was born at Winona, Minn., and after a high school education entered the service of the Western Union Telegraph Company at National City, Cal., in 1897. Two years later Mr. McCarty left this company to go with the Santa Fe as a telegrapher on the Los Angeles division, later being advanced to agent on that division. In 1903, he was appointed a dispatcher on the same division, and four years later he was further advanced to chief dispatcher, serving in this position at Needles, Cal., and Fresno. Mr. McCarty was appointed general inspector of transportation at Los Angeles, Cal., in 1909, and three years later he was

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# 3 YEARS OLD



**F**IREBARS stand up under constant service, not for a month, not for a year, but two, three years and longer.

Why this long life? They carry thin fires. Clinker trouble is unknown. The loose unit construction compensates for localized heat, thereby eliminating all danger from breakage.

FIREBARS pay for themselves in a few months.

**AND IN  
PERFECT  
CONDITION**



FIREBAR DIVISION OF

## WAUGH EQUIPMENT COMPANY

NEW YORK

CHICAGO

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Research Laboratory and General Office—DEPEW, N. Y.

CANADIAN WAUGH EQUIPMENT CO., LTD. MONTREAL, QUE.

made a trainmaster, serving in this position at Gallup, N. M., Winslow, Ariz., Needles, Cal., and San Bernardino. From 1917 to 1919, he was connected with the United States Railroad Administration as general agent, Troop Movement section, at Camp Kearney, Cal. From the end of this period until 1923 he served as trainmaster on the Santa Fe at various points, and in the latter year he was advanced to assistant superintendent at Needles, being reappointed trainmaster a year later. In 1926, he was advanced to superintendent of the Albuquerque division at Winslow, which position he was holding at the time of his recent promotion to assistant general manager.

### TRAFFIC

**A. P. Clapp** has been appointed general freight agent of the Illinois Northern, succeeding **T. J. Maloney**.

**H. S. Snedeker**, division freight and passenger agent on the Missouri Pacific at Salina, Kan., has been appointed to the newly-created position of general agent at that point.

**F. W. Johnson**, assistant general agent for the Chicago, Burlington & Quincy at Denver, Colo., has been promoted to general agent in the passenger department at the same point, succeeding **S. R. Drury**, who has retired after 55 years of service with the Burlington.

**H. S. Zane**, general agent for the Chicago, Milwaukee, St. Paul & Pacific at Tulsa, Okla., has been appointed acting general southwestern agent, with headquarters at Kansas City, Mo., during the illness of **J. S. Adsit**. Mr. Zane also continues in charge of the Tulsa territory.

**J. G. Carlisle**, director of industrial development of the Missouri Pacific, and **P. E. Watson**, general live stock agent, have had their jurisdictions extended to include the Gulf Coast Lines and the International-Great Northern, units of the Missouri Pacific Lines. Mr. Carlisle's headquarters are at St. Louis, Mo., and those of Mr. Watson are at Kansas City, Mo.

### ENGINEERING AND SIGNALING

**C. W. Engle**, assistant division engineer of the Northern-Springfield division of the Cleveland, Cincinnati, Chicago & St. Louis, has been promoted to division engineer of this division, with headquarters as before at Van Wert, Ohio, succeeding **W. D. Williams**, who has retired.

### MECHANICAL

**D. S. Ellis**, manager, railroad division, of the Worthington Pump & Machinery Corporation, Harrison, N. J., who resigned on October 1 to become engineer of motive power on the Advisory Mechanical Committee of the Chesapeake & Ohio; Erie; New York, Chicago & St.

Louis, and Pere Marquette, with headquarters at Cleveland, Ohio, was born at Warwick, N. Y., on January 25, 1897. He attended the Warwick high school. In 1916 he became a clerk in the audi-



D. S. Ellis

tor's office of the Lehigh & Hudson River; in 1917, a clerk in the auditor freight accounts office, New York Central, and later a machinist and acting roundhouse foreman. In 1918 he became a draftsman in the employ of the New York Central, and from 1920 until 1924 served consecutively as draftsman, checker, calculator, designer and traveling engineer. In 1924 he was appointed assistant engineer, and in 1925, assistant engineer of motive power. On May 1, 1929, he was appointed eastern district manager, and subsequently manager, railroad division, of the Worthington Pump & Machinery Corporation. Mr. Ellis was erroneously reported on page 520 of the *Railway Age* of October 8 as having resigned from the position of eastern district manager, railroad division, of the Worthington Corporation, to become assistant engineer of motive power on the Advisory Mechanical Committee of the Van Sweringen roads named above.

### ELECTRICAL

**Paul Lebenbaum**, whose appointment as electrical engineer of the Southern Pacific, Pacific Lines, was noted in the September 24 issue of the *Railway Age*, was born in San Francisco, Cal. He was graduated from the University of California and entered railroad service in January, 1903, being first employed by the North Shore (now the Northwestern Pacific). In November 1903, he joined the Southern Pacific, where he served as assistant electrical engineer, with headquarters at San Francisco, until April, 1909. From May, 1909, to August, 1911, he was electrical engineer for the Oregon-Washington Railroad & Navigation Company, with headquarters at Portland, Ore., and in September, 1911, he became electrical engineer for the Portland, Eugene & Eastern (now part of the Southern Pacific), which position he held until December, 1914. During this period Mr. Lebenbaum had charge of the electrification of steam lines radiating out of Portland. In January, 1915,

he was appointed electrical engineer for the Portland division of the Southern Pacific, also with headquarters at Portland, remaining there until January, 1921, when he was made assistant electrical engineer, Southern Pacific, Pacific lines, with headquarters at San Francisco, which position he held at the time of his recent appointment. Mr. Lebenbaum succeeds **A. H. Babcock**, who has retired.

### SPECIAL

**Herbert A. Enochs**, who has been appointed chief of personnel of the Pennsylvania, assuming the duties of the late **R. V. Massey** as head of the personnel department, was born at Libertyville, Pa., on September 19, 1874. Mr. Enochs began his railroad career in February, 1895, as a baggageman on the Philadelphia division of the Pennsylvania. He served some time as a brakeman, and then was advanced to conductor. Later



H. A. Enochs

he was assigned to special work in the general manager's department, and on September 16, 1918, he was appointed superintendent of the labor and wage bureau.

### OBITUARY

**Roger A. Clark**, president of the Rahway Valley, died October 1, after a long illness, at his home in Union, N. J. He was 62 years old.

**H. L. Campbell**, master mechanic on the Gulf, Mobile & Northern, with headquarters at Louisville, Miss., died on September 20 at his home in that city.

**J. A. Muldowney**, chief train dispatcher of the Western division of the New York Central, with headquarters at Chicago, died on October 7 in that city following a heart attack.

**Fred W. Robertson**, formerly general passenger agent of the Atlantic region of the Canadian National, died at Monton, N. B., on October 5. Death was due to a heart attack.

**William H. Wallace**, auditor of car service accounts of the Chicago, Rock Island & Pacific, with headquarters at Chicago, died on October 8 at his home in that city after a brief illness.